

THE FUTURE OF PASSENGER RAIL: WHAT'S NEXT FOR THE NORTHEAST CORRIDOR?

HEARING

BEFORE THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

APRIL 17, 2013

Printed for the use of the Committee on Commerce, Science, and Transportation



U.S. GOVERNMENT PRINTING OFFICE

87-459 PDF

WASHINGTON : 2014

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

JOHN D. ROCKEFELLER IV, West Virginia, *Chairman*

BARBARA BOXER, California	JOHN THUNE, South Dakota, <i>Ranking</i>
BILL NELSON, Florida	ROGER F. WICKER, Mississippi
MARIA CANTWELL, Washington	ROY BLUNT, Missouri
FRANK R. LAUTENBERG, New Jersey	MARCO RUBIO, Florida
MARK PRYOR, Arkansas	KELLY AYOTTE, New Hampshire
CLAIRE McCASKILL, Missouri	DEAN HELLER, Nevada
AMY KLOBUCHAR, Minnesota	DAN COATS, Indiana
MARK WARNER, Virginia	TIM SCOTT, South Carolina
MARK BEGICH, Alaska	TED CRUZ, Texas
RICHARD BLUMENTHAL, Connecticut	DEB FISCHER, Nebraska
BRIAN SCHATZ, Hawaii	RON JOHNSON, Wisconsin
WILLIAM COWAN, Massachusetts	

ELLEN L. DONESKI, *Staff Director*

JAMES REID, *Deputy Staff Director*

JOHN WILLIAMS, *General Counsel*

DAVID SCHWIETERT, *Republican Staff Director*

NICK ROSSI, *Republican Deputy Staff Director*

REBECCA SEIDEL, *Republican General Counsel and Chief Investigator*

CONTENTS

Hearing held on April 17, 2013	Page 1
Statement of Senator Rockefeller	1
Statement of Senator Blunt	3
Statement of Senator Cowan	15
Statement of Senator Johnson	42
Statement of Senator Nelson	44

WITNESSES

Joseph H. Boardman, President and Chief Executive Officer, Amtrak	5
Prepared statement	7
James P. Redeker, Commissioner, Connecticut Department of Transportation, on behalf of the Northeast Corridor Infrastructure and Operations Advisory Commission	15
Prepared statement	17
Jim Steer, Founder and Director, Steer Davies Gleave	20
Prepared statement	21
John P. Tolman, Vice President and National Legislative Representative, Brotherhood of Locomotive Engineers and Trainmen	29
Prepared statement	30
R. Richard Geddes, Adjunct Scholar, American Enterprise Institute, Associate Professor, Department of Policy Analysis and Management, and Director, Cornell Program in Infrastructure Policy, Cornell University	32
Prepared statement	34

APPENDIX

Hon. Frank R. Lautenberg, U.S. Senator from New Jersey, prepared state- ment	53
Response to written questions submitted to Joseph H. Boardman by:	
Hon. John D. Rockefeller IV	54
Hon. Frank R. Lautenberg	58
Response to written questions submitted to James P. Redeker by:	
Hon. John D. Rockefeller IV	60
Hon. Frank R. Lautenberg	61
Response to written questions submitted to Jim Steer by:	
Hon. John D. Rockefeller IV	63
Hon. Frank R. Lautenberg	64
Response to written questions submitted by Hon. Frank R. Lautenberg to:	
John P. Tolman	67
R. Richard Geddes	69

THE FUTURE OF PASSENGER RAIL: WHAT'S NEXT FOR THE NORTHEAST CORRIDOR?

WEDNESDAY, APRIL 17, 2013

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 2:39 p.m., in room SR-253, Russell Senate Office Building, Hon. John D. Rockefeller IV, Chairman of the Committee, presiding.

OPENING STATEMENT OF HON. JOHN D. ROCKEFELLER IV, U.S. SENATOR FROM WEST VIRGINIA

The CHAIRMAN. Ladies and gentlemen, I apologize for being late. And I also apologize that because we are having at least nine votes on gun issues this afternoon, that my distinguished friends' and my schedule are just completely ransacked. So I am going to give my opening statement.

I am tremendously interested in the content, in the substance, when doing prep last night, for what we are going to be talking about, something which is so totally impossible to contemplate and yet which is so totally impossible to contemplate not somehow figuring out a way to do. It is sort of a metaphor for whither America.

Should I start my statement? Wouldn't that be better?

Senator BLUNT. Probably be good.

The CHAIRMAN. Yes. Yes.

OK, when trains first began to roll from Baltimore to Washington in 1835, highways did not exist. They probably did in Missouri, but they didn't in West Virginia. Roads between towns and cities were made of dirt, and traveling between cities took days. The arrival of trains, obviously, changed that.

Trains were initially built to move freight from ports to commercial centers; moving commuters was an afterthought. Then railroads found that trains could move a large number of people very efficiently, and that is what people wanted.

Passenger train travel became a viable alternative, but it was not fast. And I am staggered by what I am about to say. The first train traveling from Baltimore arrived in Wheeling, in my home state, although West Virginia did not yet exist, it took 16 hours. But, then again, when you think about it, that is not too surprising, is it? Early trains. The point is that it got there.

The rise of the automobile and the interstate bus companies caused a plunge in the popularity of rail travel. The Interstate Highway System, a strong example of how the Federal government

can strategically plan for our transportation needs, was the catalyst for passenger rail's decline.

By the 1970s, the system was on the verge of collapse. Passenger rail was not financially viable, so Congress created something called Amtrak. However, it failed to establish a viable strategy for passenger rail to succeed. Amtrak, and passenger rail in general, has limped along financially since it was created.

Unpredictable Federal financial support has been a detriment to Amtrak's core responsibility to provide travel for millions of Americans and continues to hamper its long-term planning. Amtrak is caught in the worst possible of all places, doing the right thing, doing it efficiently, but not knowing what the next year will bring.

The transportation system that we rely on to travel through the Northeast and the rest of the country is from another era. Commercial expansion has resulted in vast economic powerhouses of cities that grew to this level because of their strategic commercial significance. Transportation networks were developed around and between them, creating a dense, interconnected region.

With this economic density comes complex transportation challenges. Spend some time traveling in the Northeast and one thing is very clear: it is very, very busy. The highways are jammed beyond capacity, overloaded with cars and trucks. The airspace is the busiest in the country, where delays are frequent and have nationwide consequences. Even the passenger rail systems are at capacity.

The transportation network is overwhelmed, and it is beginning to have consequences. That has been true for quite a while. The region is responsible for 20 percent of the country's gross domestic product. This translates into \$2.4 trillion annually. When traffic congestion and delays cost the region \$22 billion in lost productivity each year, it is no longer just a transportation issue, it becomes an economic issue.

It is clear that a healthy transportation network in the Northeast is vital to the Nation's economy. However, building more highways are either infeasible or astronomically costly in this dense region.

More and more every day, the system is creaking under the stress of more and more users. Our transportation infrastructure is old, it is crumbling and in too many places obsolete. In the Northeast Corridor, dramatic investment is needed right now just to maintain existing capacity.

Everyone in this room knows that simply maintaining what we have in the Northeast Corridor is not enough. We need to provide expanded capacity to meet future needs of the region. Throwing \$22 billion down the drain annually in this economy, all because we cannot agree that transportation infrastructure is a priority, is shameful.

I truly believe our country's lack of focus on investing in our infrastructure is endangering our ability to continue as a global leader. I could take 20 minutes to expand on that. What is it in Americans that will not confront the most obvious parts of their having a decent future infrastructure in so many respects? It is deplorable, it is curious, and it is wrong.

The Federal Government can lead on rebuilding our infrastructure. We can put together a coherent, long-term plan for how to po-

sition this country's interconnected transportation system for the future. But we need the will to do it, which is something that has been lacking in this building in recent years. We need the stakeholder community to push and work with us to fully meet the present and future needs of the corridor.

I have an infrastructure fund bill. I say that back home, and people don't know what I am talking about. You know, infrastructure bank and infrastructure fund, they don't know what you are talking about. But it is so critical. It would leverage private funds to maximize the return on Federal taxpayer dollars. This is one way to help fill the funding gap, but all funding ideas and options must be on the table.

The bottom line is that investment in our rail transportation infrastructure is only part of the solution. In the last week alone, this Committee has looked at how freight mobility will change in the next decade and how the aviation industry is modernizing to compete on a global level, and then also discussing whether or not sequestration and other things is going to allow that to happen.

The private sector has plans for how it will adapt to this century's technological advancements and opportunities. We will hear today that Amtrak is working on a plan for the corridor's future needs.

However, our Federal transportation programs are divided by jurisdictional and programmatic silos. It is just like post-9/11 and the intelligence community and all of those various agencies. They just hold on to their turf. All the middle-level people stop what the top-level people know has to be done, and they just stop it. It is called inertia. It is rampant.

My good Ranking Member, Mr. Blunt, I used to be something of a Confucian scholar, and that was considered very good, except the Confucians were so bureaucratic. You took this test, and if you made it, you got into the bureaucracy. Once you got into the bureaucracy, you forgot all about your country and what its needs might be; it was just about holding on to your position. And we have a lot of that here in this country.

However, my final page—

[Laughter.]

The CHAIRMAN.—our Federal transportation programs are divided by, as I said, silos in a way that prevents us from developing a comprehensive strategy for rail, for highways, and air traffic. We in Congress are not acting in a way that allows for a comprehensive intermodal strategy to guide investment. The future of America in the world economy depends on us rising to the challenge, all of us.

Your Excellency, I turn to you.

**STATEMENT OF HON. ROY BLUNT,
U.S. SENATOR FROM MISSOURI**

Senator BLUNT. Thank you, Chairman.

The Chairman and I are good friends, and we spend some time together, and anytime we do, I always learn something. And today it was that bureaucracy is the reason for the decline in Confucianism.

[Laughter.]

Senator BLUNT. So this is good to know, this is good to know, and I am glad to know it.

And, Chairman, thank you for coming and chairing this hearing today.

I do want to mention specifically Senator Lautenberg, who was certainly no—I think there is no bigger advocate for rail travel, passenger rail, or the Northeast rail corridor than Senator Lautenberg has been. And he is the chairman of our subcommittee. Not able to be here today, but we look forward to him getting back to work quickly.

The Northeast Corridor that we are going to be talking about today is one of the most important and valuable transportation assets in the United States. The comments that the chairman has made about the challenges to that corridor are real.

From an Amtrak perspective, Mr. Boardman, it is the crown jewel of Amtrak, the part of Amtrak that makes money, the part of Amtrak that serves a big and consistent population every day.

And while the population center of the country continues to move further west and further south, we need to remember that there are still 50 million people who live in close proximity to this critical corridor that we are talking about. Whether it is on Amtrak or the numerous commuter networks which use a part of this line or through the freight traffic which shares the line, millions of Americans every day are dependent for their jobs, their livelihood, and in getting to their jobs, on this corridor.

I am interested to hear from our witnesses today about their view for the future of the Northeast Corridor. And, specifically, will ridership increase as our population hopefully continues to grow? And how do we deal with that ridership in the best way, in a way that encourages the use of this asset and maintains this asset?

I understand that there is a 30-year master plan conducted by the Federal Railroad Administration, which highlights both the near-term and long-term need for this line. And I am going to be interested to hear more about the implementation of that plan and the continued sharing of this asset by freight and by passengers.

Specifically, as the freight industry continues to invest in our rail infrastructure over the past several years, we see that that industry has dramatically improved its position and is investing its own money in a way that allows its infrastructure to be maintained and improved and bigger than it was before.

Knowing how important this line is to our country, I know at least one witness is going to be talking about some of the potential for private-sector involvement and private-sector resources, how they might be able to be leveraged. I look forward to hearing that.

I think the Chairman's views of the critical use of rail if we are going to be anywhere nearly as competitive as we would hope to be and if we are going to compete with the people we have to compete with is something we all need to understand and appreciate better.

And on behalf of Chairman Lautenberg from our Subcommittee and others on the Subcommittee, I am pleased we are having this hearing, Mr. Chairman. And that is all I have.

The CHAIRMAN. Well, I have so many questions, but I am going to have to ask them from some other building, so you probably won't hear me. So I may send you some questions.

In any event, I just consider what you represent, what you represent, frankly, to my state, people who come from Martinsburg on the MARC train every single day to work in Washington, take it back at night. It is sort of an ideal life. It is efficient. And yet you are under such stress. And what you need to do to improve costs so much money, and that is hard to come by these days.

But I admire you, and I am glad that you are fighting for this. And I hope that you will forgive me if I get up and leave.

Mr. Blunt may actually be quite relieved if I get up and leave. [Laughter.]

Senator BLUNT. No. Always disappointed.

The CHAIRMAN. So now we will hear your testimony, starting with you, sir.

**STATEMENT OF JOSEPH H. BOARDMAN, PRESIDENT AND
CHIEF EXECUTIVE OFFICER, AMTRAK**

Mr. BOARDMAN. Thank you, Mr. Chairman. And thank you for your tireless support in terms of the Cardinal service in West Virginia and also the Capitol Limited service that is vital in connecting and creating economic opportunities for communities in West Virginia. Further, your support for the national network over the years is noticed and deeply appreciated, along with Senator Lautenberg's and yours, Senator Blunt.

With that being said, this hearing is about the Northeast Corridor. While investment has been heavy in improving and sustaining the Northeast Corridor since Amtrak took it over in 1976, the fact is that much of the infrastructure, particularly major components such as the electrical system and the bridges, were built between 1900 and 1930, and some components are even older. This infrastructure is carrying a much greater load than its original designers ever anticipated, and the steady expansion of traffic over the last 3 decades has consumed the available capacity.

For a while, the Northeast Corridor carried about 1,200 trains a day in 1976. Today, it carries almost double that number. While approximately 150 Amtrak trains today use the Northeast Corridor, it also hosts more than 2,000 daily commuter trains run by 8 separate agencies. Some 70 daily freight trains also use the infrastructure. The Northeast Corridor is among the most heavily used rail lines in the world, moving approximately 260 million passenger trips and 14 million car-miles of freight per year.

Now, this is a good thing, because all of those services deliver tremendous value to the region. But we are eating our assets alive. Many segments of the Northeast Corridor are already at capacity, particularly during peak periods, and it is not easy to add more capacity. Furthermore, Northeast Corridor rail ridership is projected to increase by over 50 percent by 2040. So while the operators are succeeding, we are running out of ways to cram more trains into the infrastructure, and we are severely underinvesting in a national critical infrastructure.

Penn Station, New York, is the busiest place in the system. It is the best example of the absolute failure there will be for all oper-

ators who try to cram more trains under the newest real estate development that is being built on top of an inadequate infrastructure.

We have become a nation that does not act upon our beliefs. We talk about them as if talk will build tunnels or rail lines or bridges. At rush hour, trains move through the underwater tunnels between New Jersey and Manhattan every 2 minutes. This means the slightest delay can trigger backups in the whole network. There is literally no spare infrastructure capacity. And the only time we can maintain these tunnels, or anything in Penn Station for that matter, is a 55-hour period from Friday night to very early Monday morning.

Five pages and 10 miles. Five pages in the report (http://www.nec-commission.com/wp-content/uploads/2013/01/nec_cin_20130123.pdf) that Jim Redeker will put into the record next, pages 38 to 42, in the critical infrastructure needs on the Northeast Corridor. That report identifies the most critical issue of capacity in this 457-mile rail asset: the Gateway Program. It is the single most important investment needed to unlock the capacity constraints in the Northeast Corridor and the many states it serves for the next generation.

When implemented, the Gateway Project will bring additional capacity to the spot where it is most needed, the bottleneck between Newark and New York, Penn Station. Today that segment of the Northeast Corridor is a double-track line that serves Manhattan through a pair of underwater tunnels built in 1910. These are among the same tunnels that filled with over 13 million gallons of saltwater during Superstorm Sandy, shutting down some service in the Northeast Corridor for nearly a week and underscoring the importance of adding critical redundancy to this central chokepoint on the corridor.

But as important as redundancy is, this investment is about having the fortitude to say that the United States of America is confident in the future of its people and is willing to stop talking and start building.

Mr. Chairman and Members, join Amtrak in building two new tracks and tunnels from Newark to serve an expanded Penn Station and the future Moynihan Station. It is essential to this nation's economic performance. It is essential if we are to cram more commuter trains into our crowded space. It is essential to support reliability for Amtrak, New Jersey Transit, Long Island Rail Road, and now the plans that Metro-North has to add even more trains. It is essential for the success for the real estate development being built over the West Side Rail Yard in New York City, a development that will contain more commercial space than all of downtown Minneapolis, Minnesota.

We are at a crisis point right now, today. Sandy showed our hair trigger vulnerability. We are going to need more than just Federal capital funding to address this crisis. We are going to need a new model, one that ensures equitable contributions by all users of the Northeast Corridor to the upkeep and sustainment of our infrastructure. If we do not obtain one, the outlook for the system's capacity and subsequently the rail-dependent Northeast economy is grim.

Amtrak is ready to embrace innovations, build new partnerships, and pursue private-sector opportunities, but none of this will replace the need for the Federal government to make a significant, long-term investment commitment to the Northeast Corridor. We must not dither away our time with great talk. We must build great futures for those who follow us. And the time is now.

Thank you.

[The prepared statement of Mr. Boardman follows:]

PREPARED STATEMENT OF JOSEPH H. BOARDMAN, PRESIDENT
AND CHIEF EXECUTIVE OFFICER, AMTRAK

Thank you very much for the opportunity to testify today, Mr. Chairman. I would like to begin by thanking you and your many colleagues on this Committee for all of your efforts, which have spanned decades, on behalf of Amtrak, the Northeast Corridor (NEC) and the cause of public transportation more generally. Your work here in the U.S. Senate has made a real difference in the travel experience of millions of people every year, and your contributions are enduring and distinctive. While we're here primarily to discuss the Northeast Corridor, we appreciate your visionary support for a multimodal transportation network that meets America's future needs, including a strong and healthy national intercity passenger rail network. And, of course, upon your upcoming retirement, we're going to miss your tireless support for the *Cardinal* Service that is so vital in connecting and creating economic opportunities for communities in West Virginia.

So with all that being said, I hope you'll pardon me for beginning with a quick review of the NEC, including some key data points and some information about its history and function.

Historical Overview

Although portions of the Northeast Corridor routes were built some 180 years ago, the modern NEC dates from the High Speed Ground Transportation Act of 1965, an early form of a public-private partnership between the Federal government and the Pennsylvania Railroad (which at the time owned and operated the portion of the NEC from Washington to New York) that resulted in improved trip times and performance. Through the following decade, ownership of the NEC was gradually consolidated through the creation of the Penn Central Railroad and then transferred to public and Amtrak control between 1971 and 1976 as part of the recovery plan for the Penn Central bankruptcy.

At the time we took the NEC over in 1976, the railroad was in a deplorable state of disrepair and required major investment. To address this need, the Federal Railroad Administration (FRA), Congress and Amtrak worked closely together to establish, fund and carry out the Northeast Corridor Improvement Project, or "NECIP." This project, and its follow-on, the Northeast High Speed Rail Improvement Program, or "NHRIP", invested a total of about \$4 billion in the NEC between 1976 and 1998. Over time, the NEC was transformed from a rundown mid-century railroad into a modern, electrified, high speed line capable of handling twice the number of trains and suitable for our 125mph Northeast Regional services, as well as the 135-150mph *Acela* trains which entered service in 2000.

Current Operations

As a result, in part, of these investments, Amtrak's system-wide ridership has risen by almost 50 percent since 2000, and we've set nine annual ridership records in the last ten years. The NEC has been a major driver of that growth, and our market share in the region has risen dramatically. In 2000, we carried about one passenger between New York and Washington for every two carried by the airlines; today, we carry three passengers for every single airline passenger. Similarly, we carried one passenger between New York and Boston in 2000 for every four who flew; today, we carry more people between these two cities than all of the airlines put together. This is not something that I would portray as a "win" for one mode or the other, but rather, a case of modal optimization: Amtrak is now providing efficient and effective service on a passenger corridor that's ideally suited to its operational characteristics, and the airlines can free up capacity to improve service on longer routes where there are currently fewer service choices, including international flights.

But we are only a part of the story—for today's NEC handles a lot more than just Amtrak services. This is a blessing to the communities that are served by the route,

but it is also a very severe challenge to the infrastructure. While we have invested heavily in improving and sustaining the NEC, the fact is that much of the infrastructure—particularly major components such as the electrical system and the bridges—was built between 1900 and 1930, and some components are even older. This infrastructure is carrying a much greater load than its original designers ever anticipated, and the steady expansion of traffic over the last three decades has consumed the available capacity—for while the NEC carried about 1,199 daily trains in 1976, today it carries almost double that number. While approximately 150 Amtrak trains use the NEC every day, it also hosts more than 2,000 daily commuter trains, run by eight separate agencies. Some 70 daily freight trains also use our infrastructure. The NEC is among the most heavily used rail lines in the world, moving approximately 260 million passengers and 14 million car-miles of freight per year.

This is a good thing, because all of those services deliver tremendous value to the region, but it's also a challenge. Many segments of the Northeast Corridor are already at capacity, particularly during peak periods. And it's not easy to add more capacity. Furthermore, NEC rail ridership is projected to increase by over 50 percent by 2040. So while the operators are succeeding, we're running out of ways to cram more trains onto the infrastructure. Penn Station in New York, for example, is the busiest place in the system and is the best example of the challenges we face at various locations along the NEC. At rush hour, trains move through the underwater tunnels between New Jersey and Manhattan on 120 second headways. This means that the slightest delay can trigger backups on the whole network. There is literally no spare infrastructure capacity, and the only way to acquire more is to add two more tracks to the NEC across the New Jersey Meadowlands and another set of tunnels under the Hudson River.

Addressing the NEC Capacity Challenge

To address this issue of capacity into New York, we created the "Gateway Program" which is perhaps the single most important investment needed to unlock the capacity constraints on the Northeast Corridor and the many states it serves for the next generation. When implemented, the Gateway project will bring additional capacity to the spot where it's most needed—the bottleneck between Newark and New York Penn Station. Today, that segment of the NEC is a double track line that serves Manhattan through a pair of underwater tunnels built in 1910. These are among the same tunnels that filled with over 13 million gallons of salt water during Super Storm Sandy, shutting down service on the Northeast Corridor for nearly a week, and underscoring the importance of adding critical redundancy to this central chokepoint on the corridor. Adding two new tracks and tunnels from Newark to serve an expanded Penn Station and the future Moynihan Station is essential to both reliably support the roughly 450 trains that use the current tunnels today and permit future growth across the entire corridor.

Across the NEC, Amtrak is working on creating plans like the Gateway program to address existing capacity and performance constraints. At Washington Union Station, and beginning next year in Baltimore and Philadelphia, we are advancing terminal master plans to expand our facilities for the growth ahead while simultaneously unlocking commercial development opportunities. Thanks to funding from the FRA and in cooperation with states all along the NEC, we've been advancing design and environmental review for major new pieces of infrastructure like the Baltimore and Potomac tunnels and Susquehanna Bridge replacements in Maryland. These will all be multi-billion dollar projects of regional significance, but they are the sorts of things that we must do if we are to create the capacity we need to accommodate the projected ridership growth.

In the meantime, we are using the funding we can obtain to advance discrete projects on the existing infrastructure that will deliver incremental trip time, capacity, and reliability improvements for both intercity and commuter services. The largest such project that's currently ongoing is the "New Jersey High Speed Rail Improvement Program," which will deliver upgrades to the track, electrical and signal systems between Trenton and New Brunswick to increase capacity and reliability and allow higher train speeds. Perhaps most importantly, the project gives us a prototype for modernizing the entire south-end of the NEC from New York to Washington.

User Pay Model

Measures like these—incremental steps designed to deliver specific improvements—have helped Amtrak restore and improve the NEC, and introduce important service developments such as *Acela*. But they have also brought on something I would call a "crisis of success." We've rehabilitated a railroad corridor, and made

it into something far more productive than its builders could have imagined. But our success has meant that we've used up the legacy capacity of the existing railroad while further depleting its infrastructure assets, leading us to a major coming investment crisis that, without a solution, will mean strangled growth and deteriorating service. We are going to need more than just Federal capital funding to address this crisis—we are going to need a new model, one that ensures equitable contributions by all users of the NEC to the upkeep and sustainment of our infrastructure. If we do not obtain one, the outlook for the system's capacity and condition is grim.

The first step in this direction was provided by the 2008 Passenger Rail Investment and Improvement Act (PRIIA). Section 212 mandated the development through the Northeast Corridor Infrastructure and Operations Advisory Commission of a standardized cost allocation methodology designed to ensure that all users of the NEC pay a fair share of the infrastructure capital and operating costs. This is an important beginning to creating the sound financial foundation for the NEC infrastructure necessary to support its continued improvement and growth. But, ultimately achieving this goal will require the creation of a new, long-term and reliable partnership between the Federal government, Amtrak and the other NEC railroads, the states, and local communities along the route that ensures adequate investment.

Planning for Future Generations

While infrastructure age and condition are major issues, over the longer term, the question of capacity is the greatest issue. The Northeast is a very productive and densely inhabited region, supporting 17 percent of the Nation's population on 2 percent of its land—and generating 20 percent of its GDP. About 80 percent of this population lives within 25 miles of the NEC. This population is expected to grow significantly in coming years, and that growth will translate into increased demand for both Amtrak and commuter rail service—but the existing infrastructure cannot accommodate this demand.

Amtrak has created a vision and a strategy that will address this issue. Our recent report, titled *The Amtrak Vision for the Northeast Corridor* (NEC Vision), updates the work first published in 2010, and outlines a vision for a high-capacity, high-performance railroad featuring a major upgrade of the existing Northeast Corridor to accommodate increased and improved commuter, intercity, and freight service and augmented by new, dedicated high-speed trackage, on new and existing right of way, that will allow us to dramatically increase train frequencies, raise speeds and reduce trip times to world-class levels.

Our NEC Vision is now serving as one of the many inputs into FRA's "NEC FUTURE" planning process. This important process will help determine the options for Corridor service and infrastructure development over the coming decades and we hope this Committee will continue to support FRA's ongoing work in this area. In addition to this important planning work, we are taking near-term steps to help make this vision a reality, including working with the California High Speed Rail Authority to jointly pursue new high speed train sets. Through a recently released "request for information" (RFI), we are in the process of hearing from leading train manufacturers from around the world on what high speed rail equipment they could provide to both organizations and we hope to begin a procurement process this year for new trains to augment and then replace our *Acela* train sets.

To implement the strategies I have outlined, and in recognizing that the NEC consists of two distinct Amtrak businesses—train operations and infrastructure management—we've created business lines devoted to each of these. Our "Northeast Corridor Infrastructure Investment and Development" group is tasked with the management of the infrastructure, including creation and implementation of long term strategies, development of financing options, and the management of our relations with other NEC users.

NEC as part of a National Network

Among the trains that use the NEC, I would note, are seven of Amtrak's 15 long distance trains. While it's easy to think of the NEC as the exclusive province of *Acela*, the Northeast Regionals, and the eight commuter services that use it, we shouldn't forget that the long distance services deliver up to half a million passengers a year onto the corridor. It also hosts no fewer than seven state-supported services, which provide direct service to off-corridor cities and towns such as Charlotte, North Carolina, Pittsburgh, Pennsylvania, and St. Albans, Vermont. The NEC is a key part of an integrated network that serves the United States from "coast to coast and border to border." As such, it is both a regional and a national asset, and its future is both a regional and national responsibility.

The Investment Imperative

These statistics tell you a lot about why the NEC is an asset of national significance, and why it will require an ambitious investment program to keep pace with the demands coming decades will make on it. While these costs may seem high, they would be dwarfed by the impacts of failing to invest in this asset. The whole of the investment required to implement our plan over a twenty year period, for example, is about half of the current annual cost of highway congestion in America—and the capacity improvements that come with the NextGen plan deliver the capacity equivalent of three lanes on I-95 in each direction.

This is an ambitious vision for a project of regional and national significance—and it is therefore going to have to be funded accordingly. The investment to realize these plans will have to come from a variety of sources, principally Federal, but states and cities in the region will also have to play a part. Private financing will need to play a role, too, but these contributions will only be truly possible once the public sector has committed to this project and such contributions won't come for free. A significant share of the funding will have to come from the Federal government, just as it has in our other major transportation modes. The first step toward a necessary Federal commitment is already underway through the FRA's NEC FUTURE process. We are hopeful that this service development plan and comprehensive environmental impact statement for the entire NEC—the first since the 1970s—will provide the springboard needed to launch a new era of NEC improvement.

The upcoming reauthorization of Amtrak and passenger rail programs provides a unique opportunity to advance these initiatives, both for present and future generations. PRIIA's authorizations will expire in September of this year, creating an opportunity for Congress to make a definitive statement about plans and policy for high speed and intercity passenger rail service—on the Northeast Corridor and nationwide—in the coming years. We look forward to working with the Committee as we shape the conversation about what that policy will be. We are in the process of developing Amtrak's principles for the reauthorization or PRIIA, and look forward to sharing them with you at the appropriate time.

In the meantime, if there is one thing we are sure the reauthorization must accomplish, it is coming up with an increased and more reliable source of capital investment. This is especially true for the Northeast Corridor. In recent years, Amtrak has spent an average of about \$259 million annually in NEC infrastructure spending from Federal, state and local sources from FY09 through FY13, excluding stimulus. Even though Recovery Act funding provided more than \$600 million worth of investment in the NEC, at current annual levels, we can afford to fund only normalized replacement of assets. This level of funding is not sufficient to address the backlog of deferred maintenance needs, or to build capacity for further growth. Our current estimate is that we will need something in the vicinity of \$2 billion annually to address state of good repair needs and accommodate growth for all the users.

While I am confident in our collective ability to address the full range of environmental impacts, design needs, and technical challenges of modernizing this railroad for the 21st century, what does not currently exist is a reliable funding mechanism to make this all happen. Federal funding and financing, the life-blood of all of the world's major high speed rail systems, must come in a steady, predictable, and reliable manner that will allow us to execute projects costing multiple billions of dollars over a period of many years. The existing appropriations process is barely adequate for the purposes of keeping Amtrak operating and our infrastructure in a state of basic maintenance; it cannot sustain a program of this magnitude. Consequently, I believe that if we are to succeed in realizing our vision, Congress must act to create a funding program that will support multi-year, multi-billion dollar projects, and that will require and incent local and regional contributions.

In this day and age, as we look to recapitalize our aging infrastructure and deploy new capacity strategically across constrained networks nationwide, intercity passenger rail stands apart as the fastest-growing transport mode.¹ To support this continued growth, Amtrak is ready to embrace innovations, build new partnerships and pursue private-sector opportunities, but none of this will replace the need for the Federal government to commit to the NEC. Today, we have pushed the current infrastructure about as far as it can go, but the end of demand and growth is nowhere in sight. A new model for investment and development is needed, and I hope in the coming year that the Committee will consider this need carefully—because however costly these investments may appear, the cost of failing to act will ulti-

¹ Puentes, Robert, Adie Tomer and Joseph Kane. *A New Alignment: Strengthening America's Commitment to Passenger Rail*. Washington, D.C.: Brookings, 2013.

mately be far higher, as the mobility and economic success we and the entire Northeast have enjoyed in recent years will be relentlessly eroded under the conditions of a deteriorated and capacity-constrained railroad.

ATTACHMENT

Amtrak: America's Railroad

TESTIMONY OF

JOSEPH H. BOARDMAN
PRESIDENT AND CHIEF EXECUTIVE OFFICER
AMTRAK

BEFORE THE

**SUBCOMMITTEE ON SURFACE TRANSPORTATION AND
MERCHANT MARINE INFRASTRUCTURE, SAFETY AND
SECURITY**

OF THE

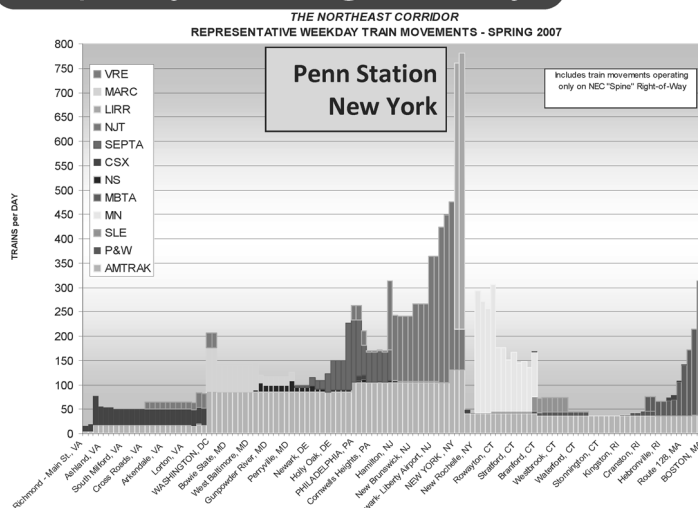
COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION

WEDNESDAY, APRIL 17, 2013

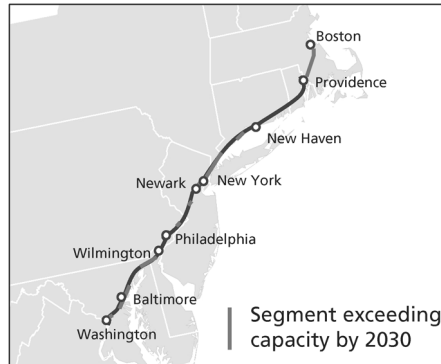
2:30 P.M.

253 RUSSELL SENATE OFFICE BUILDING

The Northeast Corridor capacity challenge - today

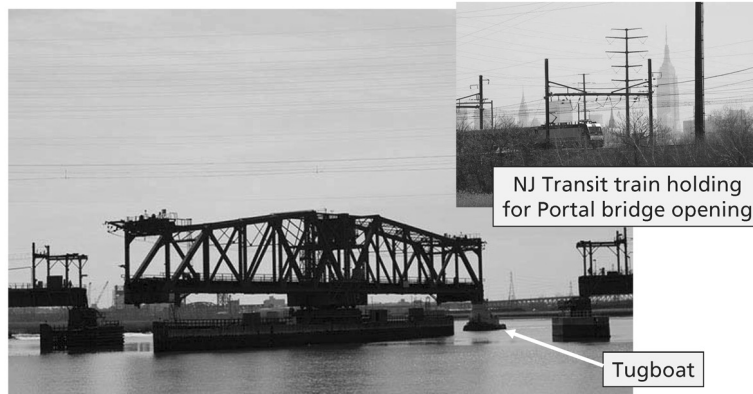


The Northeast Corridor capacity challenge - tomorrow



Projected NEC capacity situation, 2030

Opening Portal Bridge



All trains entering or leaving New York from the south must cross the century-old Portal Bridge – a double-tracked swing bridge over the Hackensack River that opens to admit river traffic and closes to operate trains (each opening requires 4 people onsite, typically 4-6 openings/week)

Maintaining Portal Bridge



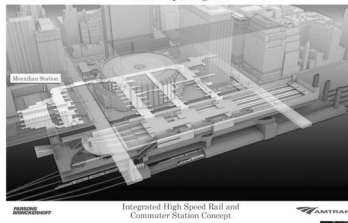
Work goes on at Portal Bridge between trains, with "flag protection" – workers stand aside to let trains pass at speed (60mph)



Focus on the passenger



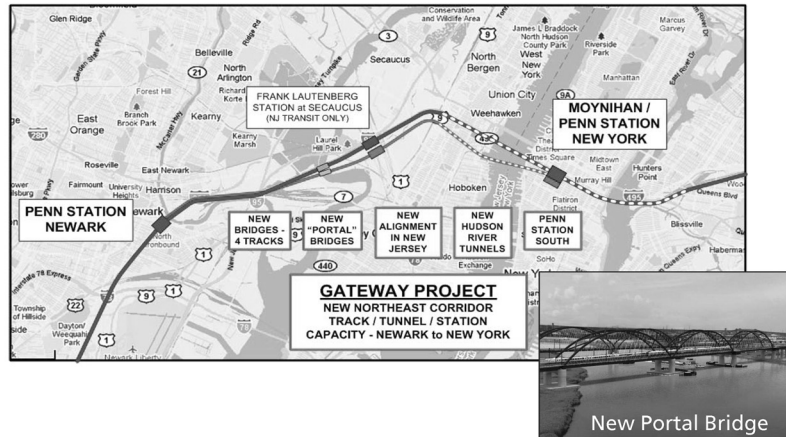
Gateway Program



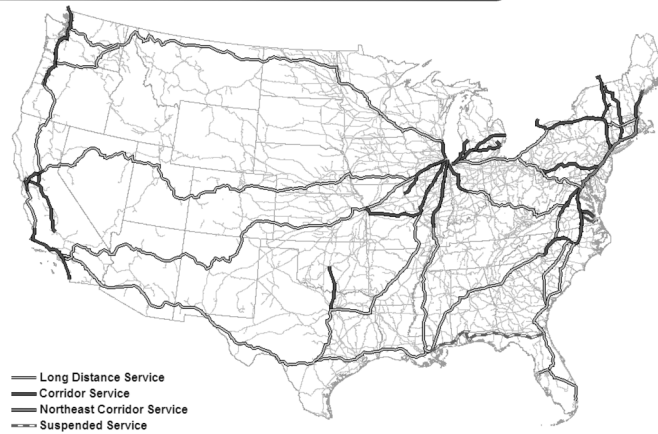
Integrated High Speed Rail and Commuter Station Concept



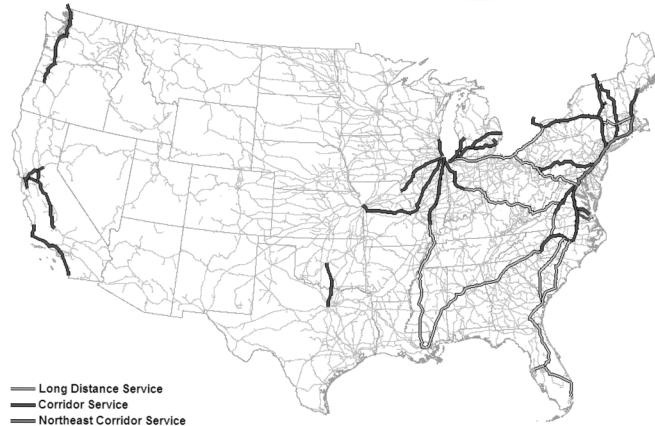
The Gateway Project



Today's Amtrak System



The Amtrak system - minus
western long distance services



This shows what happens if you remove the six long distance trains with the highest annual total operating loss

**STATEMENT OF HON. WILLIAM COWAN,
U.S. SENATOR FROM MASSACHUSETTS**

Senator COWAN [presiding]. Thank you, Mr. Boardman.

Chairman Rockefeller had to step out for a second. I will step in to the best of my abilities. Awfully big shoes to fill. I think we will just continue with the testimony over the course of the panel before we begin the questioning.

Mr. Redeker?

**STATEMENT OF JAMES P. REDEKER, COMMISSIONER,
CONNECTICUT DEPARTMENT OF TRANSPORTATION,
ON BEHALF OF THE NORTHEAST CORRIDOR
INFRASTRUCTURE AND OPERATIONS ADVISORY COMMISSION**

Mr. REDEKER. Good afternoon. And I appreciate Chairman Rockefeller's kicking off the meeting, Ranking Member Blunt, and Committee members. I would also like to recognize Senator Lautenberg, a mentor of mine from my New Jersey Transit history and a great leader in the Northeast Corridor over the years.

I am Jim Redeker, Commissioner of the Connecticut Department of Transportation. I am the owner of 56 miles of the Northeast Corridor, a principal investor in the New Haven-Hartford-Springfield intercity high-speed rail corridor, and beneficiary of great service provided through the state of Connecticut and within the state of Connecticut by Metro-North and Amtrak.

Today, I represent the Northeast Corridor Infrastructure and Operations Advisory Commission, and I am pleased to have the opportunity to discuss our activities and our long-term needs assessment of the corridor.

The Commission was authorized in recognition of the inherent challenges of coordinating, financing, and implementing major system improvements that cross the multiple jurisdictions of the Northeast Corridor. The expectation is that, by coming together and taking collective responsibility for the Northeast Corridor, our members will achieve a level of success that far exceeds the potential reach of any individual organization.

Realizing a bolder vision for the future requires unprecedented collaboration. Comprehensive planning is difficult for a system that spans eight states, and the District of Columbia, supports nine passenger rail operators, serves four freight railroads, and has four separate infrastructure owners. A key charge for the Commission is to work with its members to develop strategies for coordinated action.

To put the Commission's work in context, the Northeast Corridor region is home to over 50 million people and generates \$1 out of every \$5 in GDP. And it does so on less than 2 percent of the Nation's land area.

The Northeast Corridor has some of the Nation's longest commutes. I-95 is congested, and one-fifth of all the flight departures are delayed in major airports in the New York and Philadelphia area.

The Northeast Corridor is one of the busiest and most complex railroads in the world, carrying 750,000 passengers and 2,000 commuter, intercity, and freight trains every weekday. And to put it in perspective, the New Haven Line has added this year alone over 45 weekend trains and will be adding over 8 weekday off-peak trains and 2 reverse-peak trains, the largest, most unprecedented increase in service in our rail line's history.

The Northeast Corridor must balance acute investment needs to maintain the safety and reliability of current services with the need to address the growing service needs. Hundreds of the corridor's bridges and tunnels are a century old. Electric power supply systems were installed in the 1930s, and signal systems rely on decades-old technologies.

The wear on existing infrastructure and the demand for passenger rail services continue to increase dramatically. When you look at commuter and Amtrak services, we are sharing the same tracks, along with freight trains. Delays on one service can cause ripple effects on others. Major segments are at or near design capacity, and all services that utilize the corridor are susceptible to disruptions, and as Joe said, to infrastructure failures. We need significant and sustained levels of infrastructure investment to support the operations of the Northeast Corridor or the economic benefits will diminish.

Hurricane Sandy did give us a vision into the chaos that would ensue without these vital transportation assets. We watched political leaders act and prioritize the reconnection of rail service to get the region moving again. We applaud the railroad and transit employees who made heroic efforts to restore these critical services as quickly as possible.

In January, the Commission released a report on the Northeast Corridor critical infrastructure investment needs that details specific projects in a manner that is accessible to a broad audience.

Input to the report was provided by Amtrak, the Northeast Corridor states, and other railroads through a collaborative process.

I ask that the report be included in the hearing record. [Go to http://www.nec-commission.com/wp-content/uploads/2013/01/nec_cin_20130123.pdf]

Mr. REDEKER. This process sets the foundation of a partnership for all stakeholders to develop a comprehensive infrastructure program this year. The 5-year program will document annual state-of-good-repair needs and capacity enhancements, outlining the timing and funding needs through 2018.

The commission has established committees to oversee its work and to develop cost-allocation methodologies for proportional sharing and partnership in funding the needs of the Northeast Corridor over the next several years.

We have also engaged in activities to look at the long-term rail needs of the Northeast Corridor, partnering with FRA in its rail corridor investment plan called NEC FUTURE. We are coordinating closely with the FRA to examine funding and financing strategies to implement recommended Northeast Corridor improvements.

The Northeast Corridor is a national treasure and resource and, along with I-95, the backbone of the Northeast region. But the trajectory we have is unsustainable. Reliability is threatened by capacity chokepoints and state-of-good-repair needs. And meeting future needs for demand for commuter, intercity, and freight service is not possible without significant investment in new capacity.

If our region is going to——

Senator COWAN. Mr. Redeker, I just want you to be——

Mr. REDEKER. Yes?

Senator COWAN.—mindful of the time. Another 30 seconds, please.

Mr. REDEKER. Fine.

If our region is going to continue to grow and remain an international competitive powerhouse, we must make necessary investments.

We are committed as a commission to working together, and we thank you for this opportunity to testify.

[The prepared statement of Mr. Redeker follows:]

PREPARED STATEMENT OF JAMES P. REDEKER, COMMISSIONER, CONNECTICUT DEPARTMENT OF TRANSPORTATION, ON BEHALF OF THE NORTHEAST CORRIDOR INFRASTRUCTURE AND OPERATIONS ADVISORY COMMISSION

Good morning Chairman Rockefeller, Ranking Member Thune, and Members of the Committee. I am Jim Redeker, Commissioner of the Connecticut Department of Transportation, representing the Northeast Corridor Infrastructure and Operations Advisory Commission (Northeast Corridor Commission). I am pleased to have the opportunity to discuss the activities of the Commission as we work together to address the short and long-term needs of the Corridor.

The Northeast Corridor Commission was authorized in the Passenger Rail Investment and Improvement Act (PRIIA) in recognition of the inherent challenges of coordinating, financing, and implementing major system improvements that cross multiple jurisdictions. The Commission is comprised of members from each of the Northeast Corridor states, Amtrak, and the U.S. Department of Transportation and includes non-voting representatives from freight railroads and states with connecting corridors. The expectation is that by coming together to take collective responsibility for the Northeast Corridor (NEC), these disparate stakeholders will

achieve a level of success that far exceeds the potential reach of any individual organization.

Realizing a bolder vision for the future requires unprecedented collaboration. Comprehensive planning is difficult for a system that spans eight states and the District of Columbia, supports nine passenger rail operators—including four of the five largest commuter rail services in North America, serves four freight railroads, and has four separate infrastructure owners. It is also a challenge to ensure that near-term capital projects align with long-term infrastructure and service plans. A key charge for the Commission is to work with its members to develop strategies for coordinated action.

To help place the Commission's work in proper context, the Northeast Corridor region itself is home to over 50 million people, or one out of every six Americans. It is an economic powerhouse, generating \$1 out of every \$5 in gross domestic product (GDP). One out of every three Fortune 100 companies has its headquarters in close proximity to the NEC.

All this activity occurs on less than two percent of the Nation's land area. The density that supports this immense productivity, however, also creates congestion challenges for our transportation network. Since 1990, the average commute in the region has increased by six minutes, to some of the highest levels in the country. According to the Texas Transportation Institute's 2012 Urban Mobility Report, automobile traffic in the region results in approximately \$26 billion per year in lost productivity, with the average driver wasting 47 hours per year stuck in highway traffic. During rush hour, over half of I-95 is rated heavily congested. At Northeast airports, one-fifth of all flight departures are delayed (2012). Bottlenecks at Northeast airports have national repercussions. The major airports in New York and Philadelphia are the originating source of half of the Nation's flight delays.

The Northeast Corridor rail line is one of the busiest and most complex railroads in the world. It carries some 2,000 commuter, intercity, and freight trains every weekday. These trains carry over 700,000 commuters and 40,000 intercity passengers daily; people who might otherwise use the region's congested highways and airports. Feeder routes, such as New York's Empire Corridor, the New Haven-Hartford-Springfield Line through Connecticut and Massachusetts, Vermont's Ethan Allen service, and Pennsylvania's Keystone Corridor extend the reach of the NEC to additional communities. In turn, the connecting corridors contribute to the total Northeast Corridor ridership.

The Northeast Corridor must balance acute investment needs just to maintain the safety and reliability of current services with the need to address consistently growing service demands. Hundreds of the Corridor's bridges and tunnels are more than a century old (built before the debut of the Ford Model T); major portions of the Corridor's electric power supply system were installed in the 1930s; and signal systems rely on decades-old installations. Despite the age of the Corridor's infrastructure, the demand for passenger rail services continues to increase dramatically.

To illustrate this point, Amtrak's share of the air/rail market has increased from 37 percent to 76 percent for trips between New York and Washington and from 20 percent to 54 percent between New York and Boston since the introduction of Acela service in 2000. As this trend continues it increases the need for Amtrak to provide additional seats and service frequencies along the Corridor. The simultaneous rise in commuter rail services puts substantial pressure on the operational capability of the infrastructure on a daily basis. For example, Metro-North's New Haven Line is adding significant numbers of new trains to its schedule to accommodate continued growth, especially outside of the traditional commuting period. In fall 2012, Metro-North added twenty-eight weekend trains and two weekday trains including new reverse peak service from Grand Central Terminal on the New Haven Line. This April Metro-North added nine new trains to the weekend schedule. And in October, 2013, eight new weekday midday off-peak trains will be added which will provide half-hourly service to/from New Haven for this discretionary travel market. These changes represent the most significant increases in service in the history of the New Haven Line.

Commuter and Amtrak services intersect at common facilities and use shared tracks. Delays on any one service quickly cascade and adversely affect the on-time performance of other rail services. With major segments at or near design capacity, all services that utilize the Corridor are increasingly susceptible to service disruptions resulting from infrastructure failures. Without significant and sustained levels of infrastructure investment, the operations of NEC rail services will suffer and its economic benefits will diminish.

We often ponder what might happen if we lost this invaluable resource and Hurricane Sandy gave us all a vision into the chaos that would ensue without these vital rail assets that are so critical to the economy of our region. While the details of the

disruption and its impacts are still emerging, we all watched as political leaders prioritized the reconnection of rail service to get the region moving and functioning again. We should also applaud the railroad and transit employees who made heroic efforts to restore these critical services as quickly as possible.

Today, the reality is that deferring replacement of key components of the NEC is no longer an option—infrastructure inherited from past generations can no longer provide the mobility needed to support continued, robust economic growth. New investment is essential to modernize systems, reduce failures, ensure safety and reliability, and expand capacity for increased service.

In January, the Commission released a report on the NEC's critical infrastructure investment needs that details specific projects in a manner that is accessible to a broad audience. Our goal is to educate the public, elected officials and other key stakeholders as to the types of infrastructure investment projects that are necessary to improve the Corridor. Input to the report was provided by Amtrak, the Northeast Corridor states, and other railroads through a collaborative process.

The process used to develop the report on critical infrastructure needs sets a foundation of partnership for these stakeholders to develop an NEC Comprehensive Infrastructure Investment Program this year. This five-year capital program will document annual state-of-good-repair needs and capacity enhancements, and outline the timing and annual funding requirements for infrastructure upgrades through 2018.

Through a series of regional meetings, the Commission is ensuring all owners and operators have the opportunity to contribute their project priorities and service goals for integration into the planning process.

Coordination is particularly important for non-Amtrak-owned portions of the NEC, such as the New Haven Line, a 56-mile section of the NEC owned by the state of Connecticut and the New York MTA, and operated by Metro-North Railroad.

Later this spring, the Commission will release a report documenting the current state of the Northeast transportation network across all modes so that we can have a clear understanding of the transportation challenges facing the region today as the Commission formulates its recommendations. As required by statute, later this year we will also publish a report on the economic impacts of Northeast Corridor rail service on the region to help inform our short-and long-term recommendations and investment strategies.

Section 212 of PRIIA also directs the Commission to develop a cost allocation methodology for the NEC that ensures that there is no cross-subsidization between intercity, commuter, and freight rail services. Our aim is for this process to set a foundation for increased Federal and state investment in the Corridor's infrastructure. In return for increased state investment in the Corridor, we will explore options to address the governance of the Corridor and related institutional structures to ensure that the states are partners in the decision-making process.

The Commission has established a Cost Allocation Committee with broad participation by states, commuter railroads, Amtrak and FRA that is leading this effort. The state of Connecticut is uniquely involved, both as a Northeast Corridor owner and as a provider of commuter service on Amtrak-owned track. Our goal is to have a recommended methodology this fall followed by significant work on implementation over the next couple of years.

At the same time that we are making recommendations related to near-term infrastructure needs and developing a cost allocation formula, we are also engaged in activities to examine the region's long-term rail needs. The FRA, in cooperation with the Commission, the Northeast states, and Amtrak, is undertaking a Passenger Rail Corridor Investment Plan called NEC FUTURE to develop service and infrastructure plans for the Northeast Corridor in 2040, including examining the market for high-speed rail service.

The Commission is closely coordinating with the FRA and providing supplemental research and analysis that will inform the effort. The Commission will also examine funding and financing strategies to implement long-term NEC improvements. Our goal is that through the Commission's work and our close partnership with NEC FUTURE, we will be able to unify our members and other key stakeholders behind a long-term plan and investment strategy for the Corridor.

The Northeast Corridor is a national resource and, along with Interstate 95, the transportation backbone of the Northeast region. However, the Corridor's current trajectory is unsustainable. The reliability of existing services is threatened by capacity chokepoints and significant state-of-good-repair needs. And meeting future needs due to increasing demand for commuter, intercity, and freight service is simply not possible without significant investment in new capacity.

If our region is going to continue to grow and remain an international economic powerhouse, we are going to need to make the necessary investments in our high-

way, rail and aviation infrastructure to allow us to continue to compete internationally for businesses and knowledge workers.

The members of the Northeast Corridor Commission are committed to working together and with Congress and other stakeholders to ensure that the Northeast Corridor is up to the challenges of the future. The Northeast Corridor Commission is dedicated to informing sound policy development, providing a centralized means to generate input about the future of the Corridor, improving communication among NEC stakeholders, and bringing the region together behind a unified vision through coordinated regional leadership.

Thank you for the opportunity to testify today.

Senator COWAN. Thank you.
Mr. Steer?

**STATEMENT OF JIM STEER, FOUNDER AND DIRECTOR,
STEER DAVIES GLEAVE**

Mr. STEER. Good afternoon, Mr. Chairman. And I hope to be able to answer some of the challenges that Chairman Rockefeller and Ranking Member Mr. Blunt put to us. And thank you very much for inviting me to testify this afternoon.

I am the founder and director of Steer Davies Gleave transportation consultants and of Greengauge 21, which is a research group looking at high-speed rail, mainly in Europe. I am also president-elect of the Chartered Institute of Logistics and Transport, which is the leading professional body in the U.K., where I guess from my accent you can tell I come from.

But I have worked extensively here in the States. I worked through 2011, 2012 on behalf of Amtrak in helping develop the business and finance plan. I acted as technical lead on that project. But I have also had a lot of experience from other countries. I worked for Sir Richard Branson in 1997, when I led Virgin Trains' successful bid to run intercity services over Britain's West Coast Main Line, which I mention because it is a corridor with very close parallels with the Northeast Corridor here in the U.S.

The West Coast Main Line was the flagship of the U.K.'s privatization program. Under this franchise, a major upgrade of the existing line was carried out, and now, some 16 years later, ridership on that route has tripled, nearly tripled. The net result, to keep the story short, is the U.K. government has decided to build high-speed rail in the very same corridor, a 250-mile-an-hour, 50 billion, two-stage investment.

And there are very valuable lessons, I think, that can be drawn out from this experience, and some of it, I think, could be applied in the Northeast Corridor. And the Committee may wish to look at some of those things.

But basic question: Why have so many countries around the world chosen to invest in high-speed rail? I believe the reason really is very simple. They have concluded that the economic benefits at a national scale far outweigh the costs. High-speed rail enables obviously faster but also more reliable and more convenient travel. Shorter, more dependable travel improves business efficiency, attracts travelers who would otherwise fly or drive, and takes pressure off the wider transportation network.

It basically builds capacity. It allows major cities—and, boy, do you have major cities—to expand, to continue to grow. It brings jobs in construction, manufacturing. And those will arise not just

in the corridor of the investment. That is a very important point, I think. The economic returns are huge. The investment may be large; the economic returns are huge.

On funding, I know of no national high-speed line or network that has started out successfully reliant on private-sector funding. All have required substantial up-front investment to be met by their national governments. True, that can take different forms, including loan guarantees that provide the private sector the opportunity to borrow at low interest rates. But for the private investor, there really are too many risks up front to take on these big challenges. As a network is built out, these risks diminish, and the opportunity for the private sector to step forward emerges. And there are good examples of that.

In the NEC, there are proposals both to improve the existing corridor—and Jim Redeker has just outlined those very clearly—and to introduce high-speed rail, NextGen. In my view, it would be wrong to suppose that one type of investment should necessarily precede the other. Upgrading existing lines and building new high-speed rail both create capacity. They do it in different ways. You have choices as to what blend to go for in terms of upgrade and new-build. And that really is the key planning challenge.

So I think the key things to be thinking about are really these. Major investment in the Northeast Corridor has to be broken down into manageable stages. And I totally back what Mr. Boardman explained about the priority to be given to the Gateway Project.

There needs to be, however, a very clear mandate, in my view, from the Federal and, indeed, the state governments setting out the desired outcomes. Implementation is going to spread over decades, so a significant level of bipartisan support is going to be necessary if we are going to avoid a kind of stop-go situation.

I have mentioned the importance of up-front funding, but may I say this? Amtrak's adoption of business lines that separate the management of the infrastructure in the Northeast Corridor from Amtrak's operations is an inspired step. It retains an integral organization, a single organization with overall responsibility, while giving the opportunity to create a means for charging operators for use of the infrastructure.

And that is a key to what I believe can happen in the Northeast Corridor in the future, which is the introduction of private-sector funding. The track fees charged by the infrastructure owner are the device to remunerate private-sector investment.

And I will draw a hold there, Senator Cowan, because I realize I have used up my time. Thank you.

[The prepared statement of Mr. Steer follows:]

PREPARED STATEMENT OF JIM STEER, FOUNDER AND DIRECTOR,
STEER DAVIES GLEAVE

Good morning Mr. Chairman and members of the Committee. Thank you for holding this hearing and for the invitation to testify today.

I am Jim Steer, the founder and Board Director of Steer Davies Gleave, international transportation consultants; and the founder and Director of Greengauge 21, a non-profit public interest group which has undertaken extensive planning and research into high-speed rail in Great Britain. In addition, I am President-Elect of the Chartered Institute of Logistics and Transport, the leading association of transportation professionals in the United Kingdom.

A close parallel to the Northeast Corridor

Before discussing the Northeast Corridor, I think it may be helpful to the Committee to share the experience of a close parallel, the West Coast Main Line in Great Britain. The West Coast Main Line is a 400-mile rail corridor that connects London with some of the UK's largest cities and key economic hubs, including Birmingham, Manchester, Liverpool and Glasgow. The geography and population of the UK are similar to those of the Northeast Corridor region, with about two-thirds of the UK's population of 60 million served by the West Coast Main Line compared with a population in the Northeast Corridor of 52 million.

There are similarities in the constraints faced in the Northeast Corridor and those along the West Coast Main Line:

- There is increasing highway congestion between the cities along the corridor and limited opportunity for additional capacity;
- There is pressure on airport capacity;
- There is strongly growing demand for rail travel;
- Intercity, regional and commuter passenger rail and rail freight compete for paths over the same tracks; and
- There is a need to replace and upgrade whole-system infrastructure while keeping the railway open to traffic.

The existing infrastructure of the West Coast Main Line has been subject to a major renewal and upgrade ('Route Modernization') which is now substantially complete at a cost of \$13 billion. The modernization was designed to replace life-expired infrastructure and at the same time increase capacity and reduce travel times. The work was undertaken over a period of 10 years, and resulted in considerable disruption to corridor rail travel during this time. Nonetheless, a much improved service has been provided. Intercity train frequencies have been doubled and journey times reduced by about one-fifth. Ridership has increased dramatically as a consequence, but all of the additional capacity provided by this work and subsequent train lengthening is expected to be used by the mid-2020s. As a consequence, there is limited opportunity for the line to service the needs for growing commuter rail and rail freight—or indeed for more intercity travel.

In the early 1990s, the UK government began a major privatization of the railways, establishing a structure whereby track ownership and train operations were separated and operators were required to pay transparent access charges to use the infrastructure. Today, as with nearly all of the UK rail network, the West Coast Main Line track and other infrastructure is owned by one organization, Network Rail, but passenger services are provided by separate private companies operating under a concession structure. The government specifies and organizes a competitive bidding process, and awards concessions to private operators who then provide passenger services along a route (or series of routes). Private sector freight companies operate on an open access basis over Network Rail tracks. To implement this structure, the government established one public sector agency to regulate the access charges and a second public sector agency to award and manage the concession (franchise) agreements.

In 1997, I led Virgin Trains' successful bid for the franchise to run inter-city services over Britain's West Coast Main Line, and helped Sir Richard Branson build a management team to implement the radical changes contained in the franchise bid. After four years in this capacity, I joined the Strategic Rail Authority—a Government agency newly set up to take over responsibility for awarding and monitoring rail franchises while introducing forward planning to the privatized railway. I was responsible for industry-wide planning, and I also chaired the West Coast Program Board which oversaw the introduction of the new fleet of 125 mph inter-city trains, enhanced infrastructure (the Route Modernization program described above), and a transformed service timetable.

When the Strategic Rail Authority was dissolved in 2005, I set up Greengauge 21 to lead a debate on the case for high-speed rail in Britain. In 2007, we proposed that the key first step was a high-speed line in the West Coast corridor, and two years later the Government initiated the project ('HS2'). This will make possible much faster journeys between key city pairs and will also release capacity on the West Coast Main Line to deliver benefits to regional and commuter passenger rail and rail freight operators.

My experience with the West Coast Main Line in Great Britain taught me several lessons:

1. Incremental improvement with proven technology can deliver transformational benefits within 10 years, even when applied to a busy railway—but this entails significant service disruption.
2. Even if the private sector provides little equity, it is able to deliver fleet procurement and service upgrades more quickly and more efficiently than Government. In the West Coast case, there was a clear remit and mandate from Government (through contracted franchise commitments) for the private operator to replace a life-expired train fleet procurement and to upgrade services; without both the government's mandate and Virgin Rail Group's firm commercial resolve, these wouldn't have been delivered.
3. Success is measured in part by rapidly growing demand and revenue. Ridership more than doubled—and was forecast with reasonable accuracy. While this was built into the franchise bid and plan from the outset, a 15-year franchise term still limits the planning horizon. Somebody has to take an even longer-term view. It is clear that the route will have reached capacity (no more train paths) by 2026, if not sooner, despite capacity increases created by the Route Modernization program.
4. Government officials and others question, with hindsight, whether the \$13 billion West Coast Route Modernization should have proceeded, and whether it would have been better to build a new high-speed line instead. It's a fair question, but over 75 percent of the Route Modernization cost was incurred on a backlog of infrastructure renewals that would have been needed anyway to support continuing operation of commuter services and freight alongside any new construction.
5. Virgin Trains, which paid significant surcharges on its track access fees to fund the upgrade, was provided with protection from competitive entry by other passenger train operators buying spare slots on the West Coast line (open access operators) for the full 15 year term of the Virgin franchise. The role of an independent Rail Regulator to enforce these arrangements, and the contract between Virgin Trains and the infrastructure owner (Railtrack/Network Rail) was essential to the investment model.

International High-Speed Rail

I have followed the progress of high-speed rail around the world, traveling on the first French TGV line soon after it opened in 1982 with a small delegation from British Rail (then state-owned). At the time, I was responsible for developing a strategy for British Rail's new business sector ("InterCity") to turn it from a loss maker (meeting only 80 percent of its costs) to a profitable business (which was achieved by the late 1980s). I acted as adviser to the consortium that won the Public Private Partnership (PPP) to develop the Eurostar service and build the new high-speed line between London and the Channel Tunnel (mid 1990s). And I was responsible for a major study for the Spanish government rail operator RENFE, examining the prospects for the Madrid—Barcelona high-speed line before it opened (in 2006). So I have seen and experienced various ways of addressing the challenge of how best to transform traditional inter-city passenger rail services into competitive and prosperous entities.

Why have countries facing this challenge invested in high-speed rail? I believe the reason is simple: they have concluded that the economic benefits to the Nation of this investment far outweigh the costs. High-speed rail enables faster, more reliable and more convenient travel. Shorter more dependable travel improves business efficiency. By attracting travelers who would otherwise fly or drive, high-speed rail takes pressure off the wider transportation network. This also allows time spent traveling to be used more productively. There are important safety, carbon and valued regional & urban redevelopment benefits too. But most important of all, in my view, is the point that high-speed rail builds transportation and thus economic capacity. It achieves this through two parallel strands: the extra capacity created on the high-speed line itself and the opportunity to completely recast timetables for the existing railroad to provide more commuter rail and freight services. It therefore supports businesses, expands commuting catchments and helps industry and trade. The economic returns are huge.

My colleagues at Steer Davies Gleave have worked extensively around the world to develop and apply methodologies that identify and quantify the economic impacts of transportation investments—including documenting and recommending best practice analytical methods for high speed rail for the USDOT Office of Inspector General.

Alongside the economic rationale for high-speed rail investment, I believe that international experience provides lessons that are relevant here in the US—and especially in the Northeast Corridor—when considering how to advance from a conventional to a high-speed passenger rail system. These lessons can be grouped under four headings:

- Funding;
- Organization;
- Leadership; and
- Planning.

Funding

I know of no national high-speed line or network that has started out successfully reliant on private sector funding. All have required the substantial up-front investment to be met by Government. True, this might take different forms—including loan guarantees that provide private sector access to borrowing at low interest rates. But for the private investor, there are simply too many up front risks, such as:

- Planning consent & environmental approvals;
- Construction cost and timescale;
- Network and/or system integration risks;
- Revenue risks; and
- Regulatory and political risks too.

As a high-speed line or network is built out, these risks diminish. The path through planning consent becomes better understood; construction prices get tested in the market-place; and, with a high-speed service in operation, market shares and revenues are revealed. In short, the high-speed rail proposition gets proven, including in commercial terms. Provided that political resolve remains unwavering—and in a democracy, this means there is a broad bi-partisan or cross-party support for the overall vision—then there is a chance that private sector input to funding can be obtained for the next stages of the program.

Let me mention three examples—each one different, reflecting the varying circumstances in three European countries—France, Italy and Great Britain where this has happened.

The French TGV network was developed and funded by SNCF, a totally state-owned organization from the early 1980s onwards. The first line between Paris and Lyon is the busiest, and it remains entirely state-owned and operated. Right now plans are being progressed to duplicate it with a second high-speed line serving the same end-points but new intermediate cities.

The pattern of funding French high-speed lines evolved as the network was developed. The line between Paris and Strasbourg (“TGV –Est”), for example, was funded by the French Government through SNCF, but with substantial funding too from the regions and cities served. Again, all funding came from the public sector.

The line currently under construction between Tours and Bordeaux (189 miles) represents an extension to an existing high-speed line between Paris and Tours (“TGV Atlantique”). The most problematic section of the overall route (access to central Paris) has been built; the market for services is proven; now it’s a matter of shortening an already improved journey between Paris and Bordeaux. This project (worth \$10.3 billion) has been privately funded through a PPP structure. As an extension to what is now a core national network, the perceived risks are much lower. Political resolve (for now) remains intact. And the state, through SNCF, is obligated to “buy” a specified quantum of train paths from the company that will own and maintain the new line on a 50 year concession, thus providing some degree of revenue predictability.

The Italian experience is very different. Construction of the high-speed line between Milan and Rome/Naples was started before WWII. It has opened in stages with fast services (up to 155 mph) starting in 1988. It has been entirely funded and is owned by the Italian State (through the railway owner FS).

My colleagues in Steer Davies Gleave have acted as advisers to a funding group, led by four Italian businessmen, that decided to enter the intercity passenger rail market via the provisions of Europe’s open access regulations; these now require EU countries to provide non-discriminatory access to the country’s track. The new company, NTV, commissioned its own fleet of 220 mph high-speed trains, built depots to maintain them, recruited its own operating staff and in 2012 introduced a new service in competition with the State operator *Trenitalia* over the State’s high-speed

line. NTV pays a track charge, as an open access operator, but has not been able to access the busiest stations in Rome and Milan.

In Great Britain, the pace of high-speed rail development has been slower. What is now called High-Speed One (or HS1, the \$8.5 billion 68 mile high-speed rail link between central London and the Channel Tunnel) was opened throughout in 2007—ultimately on time and on budget, but only after a Government-backed rescue of the private sector consortium that had won the right to build and operate it. Just three years later, the high-speed rail infrastructure (but not the Eurostar service which runs over it, linking London with Brussels and Paris) was tendered as a 30 year concession. This tender was won by a consortium of Canadian Pension Funds, who paid \$3.1 billion, in effect to the UK Treasury. They will earn a return from track access fees from two train service providers (and they hope, in future, a third). So the Government was able to recoup a substantial part of its capital outlay once the risky period of planning, construction and service introduction had been safely negotiated.

Note that in all three cases, charging for access to high-speed infrastructure is a crucial part of the commercial structure that has enabled the private sector to participate.

Organization

In the three cases I have mentioned in Britain, France and Italy, a single organization was responsible for the crucial stage of planning together the infrastructure and trains—even though, in practice, the new lines have been able to accommodate differing train designs and operators once built. This unified organizational structure is, in my view, important because it removes *interface* risk. Where this has not been the case (the Dutch high-speed line being an example), a more complex funding structure has been necessary and the technical challenges which lie across the track-train interface (in the Dutch case, train control systems) proved problematic.

In the British case, a dedicated team was established to create a high-speed rail project delivery organization that combined expertise from British Rail (which was being privatized at the same time) and the private sector. This provided the single-mindedness that is necessary to deliver complex major construction projects—in this case in a sensitive rural environment (across the County of Kent) and through East London to a much-loved historic station that was transformed as part of the project, in the center of London (St Pancras).

Leadership

In each country, there has been a continuity of political consensus through many changes of government.

In Britain, the underlying basis for the shared political support stemmed from a series of factors:

- Agreement that investment in infrastructure is essential for national economic competitiveness;
- A recognition of the national importance of the corridor and need for transport service and capacity improvements to it;
- Agreement that improvements to other modes serving the corridor are not feasible or as effective;
- Acceptance that the costs are worth bearing and can be managed (HS1 was ultimately delivered on time and budget); and
- Acknowledgement that the private sector can't shoulder the initial financing and consequently that Government has a legitimate role in catalyzing and advancing the project.

In Britain, the political leadership for HS1 came from Lord Heseltine (Conservative) and John Prescott (Labour). The initiative to develop the much more substantial HS2 (the dedicated high-speed line linking London, Birmingham, Manchester and Leeds) came from Secretary of State for Transport Lord Adonis (Labour) a year after the opposition Secretary, Theresa Villiers (Conservative) had committed her party to develop the project and provide \$23 billion funding. The project has since been expanded, and now has a price tag of \$50 billion, but it remains the intention of the current Coalition Government (Conservative and Liberal Democrat) to proceed on essentially a Government-funded basis. This also has the support of the Labour opposition and of the Scottish Nationalist Party.

Planning

The particular challenge to which I would draw the Committee's attention is the need to consider existing rail networks—and their attendant expenditures on maintenance and renewal—alongside the arrangements needed for new construction. I

contend that it would be wrong to suppose that one type of investment should necessarily follow the other. On the NEC, this is a moment for coordinated strategic planning, using common investment appraisal methods to ensure the best value return on public funds. New build high-speed rail releases capacity that can be used to benefit users of the conventional rail network. This type of benefit is one of the prime motivations for investments in high-speed rail. In France, it is now accepted that investment in existing lines has been neglected while the new build high-speed line program has progressed.

France also provides useful evidence on another benefit of having clear forward plans. There, experience with the TGV network suggests that urban redevelopment around new high-speed rail stations takes place over a lengthy 15 year timescale. The interesting point is that this development activity—which is of course private sector-led—starts well before the new line is open, typically 7–8 years ahead. In the UK, the 68 mile HS1 project is estimated already to have led to \$15 billion in private sector investment in urban redevelopment projects around the new stations built on the line.

Northeast Corridor

Here in the US, during 2011 and 2012 I acted as Lead Technical adviser to Amtrak, working in a team that blended the expertise of Steer Davies Gleave's Boston team specializing in demand and revenue analysis of transportation projects and the financial expertise of the professional services firm KPMG. Our task was to develop a financial and business plan for Amtrak that embraced:

- The Masterplan program, which would return the Northeast Corridor to a state of good repair and accommodate expected expansion in commuter rail, freight and Amtrak services through to 2030; and
- The NextGen high-speed rail program, which would see a new true high-speed rail network implemented by 2040.

In carrying out this work, I was able to visit the whole of the existing corridor and engage closely with Amtrak at the officer and Board level.

As detailed in the charts below, ridership on Amtrak's Northeast Corridor services (especially Acela Express) has been increasing steadily, and Amtrak is now capturing 60 percent of the air/rail market between Washington and New York and 50 percent of the air/rail market between New York and Boston. Running more services, whether intercity or commuter, is constrained by a series of bottlenecks along the corridor. Capacity limits have been reached on the Acela services, and more growth is now taking place on the Northeast Regional services as a result.

Figure 1 Amtrak NEC Ridership (In Millions) By Fiscal Year

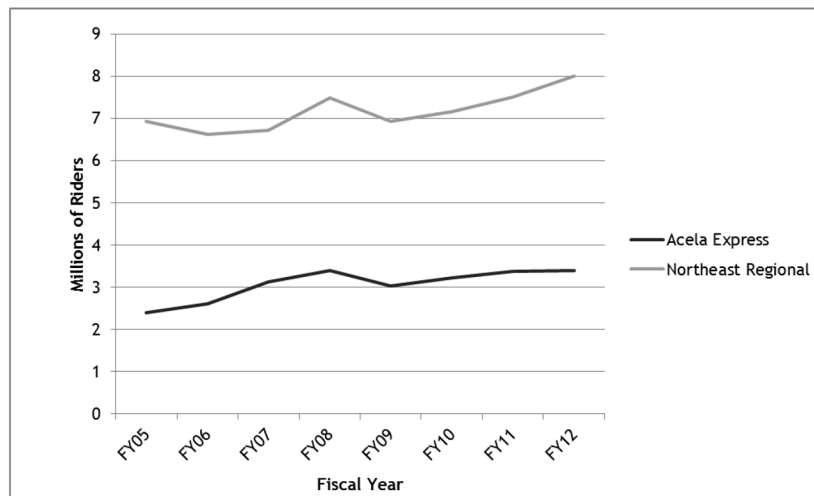
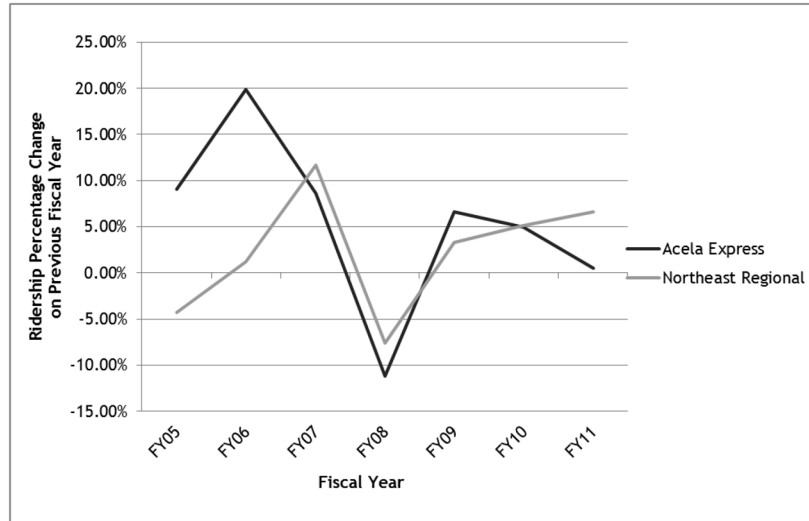


Figure 2 Amtrak NEC Annual Ridership Growth**Table 1.—Amtrak NEC Ridership Growth**

Train Name	FY05–12 CAGR	FY10–12 CAGR
Acela Express	5.1%	2.7%
Northeast Regional	2.1%	5.9%

It is clear to me that there is an overwhelming case for major investment in rail transportation in the NEC.

If the United States Government, the States of the Northeast Corridor, Amtrak and other key stakeholders come to the same conclusion, they will be faced with the challenge of how to implement such a large scale program.

I have ten observations to make on this challenge:

1. There are advantages in having a *single entity with overall responsibility* for at least the early stages of development of a transformational effort such as the introduction of high-speed rail. If Amtrak didn't exist, I believe it has been said, you'd have to invent it—and as far as the prospects for the NEC are concerned, I think that is correct.
2. Major investment as envisaged for the NEC must be broken down into *manageable stages*. The sooner the early success of a separable new product can be created—separable in a verifiable commercial sense—the sooner it would be possible to draw in private sector finance to fund subsequent development stages.
3. There needs to be a *clear mandate from the Federal and NEC state governments setting out the desired outcomes*, and—given the implementation timescales, which spread over decades—a significant level of bipartisan support is essential if there is to be efficient progress made, and stop-start is to be avoided.
4. There also needs to be substantial up-front Federal (or possibly, multi-state) *funding*, on a level above and beyond that available through existing programs.
5. Amtrak's adoption of business lines is an inspired development that retains the necessary integrity of a single agency (see point 1 above) while facilitating the evolution towards an infrastructure owner-operator business that is remunerated through *transparently set track access fees* applied to the multiple operators who use the corridor. As required by the PRIIA legislation, it is extremely helpful for decision-making on investment choices and for attracting

future private capital to have track charges that reflect costs in a normal business-like way. In the longer term, this will serve to drive more efficient operating practices and therefore potentially reduce Amtrak's reliance on Federal funding.

6. Along with other interested parties in the Corridor, Amtrak has made submissions to the FRA's ongoing Passenger Rail Corridor Investment Plan (which consists of a Tier 1 Programmatic EIS and a Service Development Plan), setting out differing scales of investment and outcomes. The best overall approach will probably be a *combined upgrade/new build program*. New build will most likely be to high-speed standards, since study after study shows this delivers the best value return on investment. The right balance requires a serious attempt to look at the alternatives alongside one another in an unbiased way. It would be wrong and wasteful to assume that the priority is to 'fix the existing railroad' first—as if that ever reaches a totally acceptable end-state—and then, as that railway gets full to capacity, to start to thinking about new construction (possibly to high-speed standards). You do not face the same situation in the Northeast Corridor as the UK faced 16 years ago with the West Coast Main Line, when new build high-speed rail was not on the agenda at all. Here it is on the agenda, but considered choices still need to be made. New build and upgrade both deliver more capacity and better reliability. New build has the advantages that:
 - It is less disruptive on to existing services during construction;
 - It can lead to a separation of rail traffics by type and speed, improving overall network efficiency by releasing capacity on existing lines as well as providing separate new capacity for high-speed; and
 - It offers the potential for very high-speed service, enabling step change journey time reductions, and it will bring greater benefits including more widely across the other transportation modes in the corridor.

In short, high-speed rail lines are about capacity—with the ability to bring additional benefits from transformational journey times an add-on advantage. The focus on capacity was the key driving factor in countries such as France at the outset of their high-speed line program, and it is the right way to examine the prospect in the NEC as well.

7. My own view is that there are limits to what can be done through upgrading existing lines. The practice adopted in the NEC, which is one of great reluctance to lose continuity of service while upgrades are in progress, leads to very lengthy implementation times. It may be *best in some situations to build new lines first* so that upgrades can be carried out on the existing corridor with at least some of its traffic load diverted away on to the new line.
8. As for where to make a start, the *Gateway project* is rightly seen as a priority because NEC capacity constraints between Newark and New York City represent a significant bottleneck. Many smaller projects in the Masterplan should also be progressed, once they have been examined together with new sections of high-speed line and incorporated into an integrated program. Sections of new high-speed line such as across the New England States could well be developed away from the existing coastal alignment, perhaps by a third party, as part of an overall plan.
9. In our consulting assignment for Amtrak, we identified an improvement to a section of route across Maryland and into Delaware that offers as much as 25 minutes off journey times, requires no new stations and has a cost estimate of \$12 billion. Along with other options, I believe this should be examined by Amtrak and the FRA for early adoption (by which I mean by the 2020s). It would *showcase a genuine high-speed capability* and allow full testing of 220 mph operation in the USA.
10. In the longer term, with increased capacity available, it would be possible to see new market entrants providing services on the NEC, offering competition and customer choice. It will also be possible to introduce *private sector funding* and direct returns to the U.S. public account—for instance by a long-term concession for new (or possibly enhanced) sections of route. But these are for the future, and it is essential to realize that the risks around investment in the first place need to be minimized, including competition risk. Once the program is underway and the operating and commercial outcomes are more predictable, additional service providers add the prospect of an upside return for infrastructure investors.

Once again, thank you for the opportunity to testify today and I look forward to answering your questions.

Senator COWAN. Thank you, Mr. Steer.
Mr. Tolman?

**STATEMENT OF JOHN P. TOLMAN, VICE PRESIDENT
AND NATIONAL LEGISLATIVE REPRESENTATIVE,
BROTHERHOOD OF LOCOMOTIVE ENGINEERS AND TRAINMEN**

Mr. TOLMAN. Good afternoon, Chairman Cowan, Ranking Member Blunt, members of the Committee. I am a Vice President with the Brotherhood of Locomotive Engineers and Trainmen, a division of the Teamsters Rail Conference, representing 37,000 locomotive engineers and trainmen and over 70,000 Rail Conference members.

I want to express my appreciation for the opportunity to speak here today of our position on Amtrak high-speed rail and the development of the Northeast Corridor. I will focus on the progress Amtrak has made on the Northeast Corridor and the future of passenger rail in the corridor.

Since the Federal Highway Act of 1956, we have spent billions on our Interstate Highway System. The system cost \$114 billion and took 35 years to build. Today it would cost \$426 billion simply just to build.

Congestion on our nation's roads is at historic levels, and projections are that by 2020 some 90 percent of urban interstates will be either at or over capacity. By 2055, there will be at least 400 million automobiles on our highway system. This problem will only grow exponentially as the number of cars on our roadways increase, with little ability to increase the capacity.

The solution to these problems lies right before our eyes. Improvements to passenger rail funding on the Northeast Corridor are a necessity to expand service. Increased rail service would reduce congestion on other modes of travel, especially in the Northeast Corridor. Significant investments are sorely needed.

When Amtrak funding is compared to the majority of European and Asian countries, it is, frankly, embarrassing. In 1970, Congress passed the Rail Passenger Service Act. Amtrak was created as a private company on May 4th, 1971, and began running a nationwide passenger rail system. Since then, the capital and operating subsidies from the Federal government have been at levels that have barely allowed Amtrak's survival.

There is a need for continued development of passenger rail and high-speed passenger rail. There is no doubt about the economic benefits of high-speed rail and intercity passenger rail. Ridership trends demonstrate that people are willing to take trains with reliable and frequent service. On the Northeast Corridor, it is especially true. Seventy-five percent of all people that travel from New York City to Washington, D.C., take the train. Fifty percent of all the people that travel from Boston to New York City take the train. Amtrak logged its best ridership ever, with more than 31 million passengers last year.

Amtrak trains consume 20 percent less energy per passenger-mile compared to airlines, 30 percent less than automobiles. Its benefits reach across our economy in many, many ways.

The Teamsters Rail Conference believes that reauthorization of the Passenger Rail Investment Improvement Act, PRIIA, provides an opportunity for Amtrak to attain long-term funding levels. Amtrak supports the jobs of skilled professionals and dedicated employees who provide the traveling public with safe and reliable transportation.

It is important to note that these on-board service employees provide more than just meals. They provide some of the first responders when a safety problem occurs on board. We cannot outsource safety to workers who are paid at minimum wages without benefits.

PRIIA provisions expire in Fiscal Year 2013, as you know. If the provisions in section 205 of PRIIA were reauthorized, an additional 33 leases could be terminated in the next 5 Fiscal Years. This would entail an up-front cost of \$572 million but would save \$965 million in future payments, a net savings of \$393 million. PRIIA reauthorization offers many opportunities to sustain and build on the great work that Amtrak is doing.

The cycle of underfunding Amtrak must end. It is not about the Democrats, Republicans, or independents. It is about the future of travel in the United States of America, and we all should be on board.

In closing, Amtrak is vital to the Northeast Corridor. It must be part of the future, moving toward a higher-speed Northeast Corridor. Amtrak's reauthorization offers many opportunities for expansion and renewal for the public.

Thank you.

[The prepared statement of Mr. Tolman follows:]

PREPARED STATEMENT OF JOHN P. TOLMAN, VICE PRESIDENT AND NATIONAL LEGISLATIVE REPRESENTATIVE, BROTHERHOOD OF LOCOMOTIVE ENGINEERS AND TRAINMEN

Good morning, Chairman Lautenberg, Ranking Member Blunt, and Members of the Subcommittee. My name is John Tolman and I am Vice President and National Legislative Representative for the Brotherhood of Locomotive Engineers and Trainmen, which is a Division of the Teamsters Rail Conference.

On behalf of more than 37,000 active BLET members and over 70,000 Rail Conference members, I want to express our appreciation to the Subcommittee for the opportunity to present our position on Amtrak, high-speed rail, and in particular regarding the development of the Northeast Corridor.

Through comparison and discussion regarding capacity, costs and needs, I will focus on our perspective of the progress Amtrak has made on the Northeast Corridor and the future of passenger rail on the Corridor.

In addition, I will discuss other countries' experience with privatization of passenger rail and high-speed service.

Brief History

Since the Federal Aid Highway Act of 1956, we have spent billions building and maintaining our interstate highway system. That system cost \$114 billion and took 35 years to complete. In today's dollars, it would cost \$426 billion simply to build, and billions more to maintain the system because a significant portion of it is in a serious state of disrepair.

Passenger miles on highways increased 18.1 percent between 1997 and 2004. Congestion on our nation's roads is at historic levels and it is projected that by 2020, some 90 percent of urban interstates will either be at or over capacity. Projections are that by 2055 there will be at least 400 million vehicles on our highway system, further taxing our infrastructure. Already, the Texas Transportation Institute estimates that—in 2005 alone—\$63 billion in time and fuel was wasted due to traffic congestion. This will only grow exponentially as the number of cars on our roadways increase with little ability to increase capacity.

Our nation's airports are in a similar state, as anyone who has flown recently knows. Serious problems plague our nation's airports—flight delays and cancellations, lost luggage, and overcrowded planes. Only 82 percent of commercial flights were on time in February 2009, and most of these delays occurred because of overcrowded airspace along the East Coast.

The solution to these problems lies right before our eyes: Improvements to passenger rail service on the Northeast Corridor are a necessity. Increased rail travel would reduce congestion on our highways and in our airports, especially on the Northeast Corridor. However, to do this, significant investments are sorely needed.

Comparing Countries

When you compare the level of government funding provided to Amtrak as a percentage of Federal funds provided to domestic aviation and highways, with the majority of many European and Asian countries, it frankly is embarrassing. And it is clear that in other parts of the world, privatization of high speed and passenger rail comes with many problems that privatization itself portends to solve. For example, systemic safety and reliability problems that were a direct result of privatization have led to reversals that caused much upheaval in transportation systems in Great Britain and New Zealand, who were forced to re-nationalize all or portions of their systems and provide significant subsidies. Funding cuts always have been the precursor to privatization schemes.

In fact, we cannot forget our own history of private operation of American passenger railroads. Amtrak was founded nearly a half-century ago to provide relief for the freight railroads. Congress recognized need to protect the profitability of the private freight railroads along with the continued need for passenger rail in this country and in 1970, passed the Rail Passenger Service Act. Thus Amtrak was created, as a private company which, on May 1, 1971, began managing a nation-wide rail system dedicated to passenger rail service. Since then, Amtrak has received capital and operating subsidies from the Federal government, albeit often at levels that have barely allowed its survival. The reauthorization of PRIIA could allow this trend to change by providing long-term, stable funding for Amtrak.

High Speed Rail Profits and Amtrak's Northeast Corridor

In addition to stabilizing Amtrak's funding, there is a need for continued development of passenger rail, and specifically, high speed passenger rail. There is no doubt about the economic benefits of high speed and intercity passenger rail, and Amtrak's Northeast Corridor clearly demonstrates that there is a demand for expanded service.

Ridership trends demonstrate that people are willing to opt to take trains in areas with reliable and frequent service. On the Northeast Corridor, this is especially true. Amtrak now carries more riders on this route than all of the airlines put together. And between Washington, D.C. and New York City, Amtrak carries *more than twice as many passengers* than all of the airlines combined. Since introducing its Acela service, Amtrak has almost *tripled* its air/rail market share on the NEC, and today carries 75 percent of intercity travelers between New York and Washington.¹ Introducing Next Gen high-speed rail on the NEC will improve that performance even further.

High speed rail will not operate in a vacuum. All modes of transportation can work together as part of the transportation network. High-speed rail and airlines also complement one another in providing safe, fast and efficient travel to the public.² And multi-modal passenger transportation is not limited to comparing rail travel with air travel.

Fifteen years ago DOT estimated the savings from reduced highway delays range from \$489 million to \$2.9 billion annually, depending on the corridor. Those are savings that can only be realized by providing appropriate investment in high-speed passenger rail.³ Amtrak trains consume 20 percent less energy per passenger mile than airlines and 30 percent less than automobiles.

Additionally, countless studies have shown the impact of investment in rail. In fact, a recent APTA report, published in July 2012, showed that discontinuing high-speed passenger rail investments in the Midwest, California, the Pacific Northwest

¹ Amtrak, "State-Supported Corridor Trains, FY 2011–2012," April 2012.

² Amtrak NEC Briefing.

³ High Speed Ground Transportation for America," U.S. Department of Transportation, September 1997.

and the Northeast Corridor would possibly cause \$24.6 billion in *net* forgone economic benefits over the next 40 years.⁴

The Teamsters Rail Conference believes that the reauthorization of the Passenger Rail Investment and Improvement Act (PRIIA) provides an opportunity for Amtrak to finally attain stable long-term funding levels, enabling Amtrak to support the jobs and rights of their skilled and dedicated employees, who provide the traveling public with safe, reliable transportation. PRIIA reauthorization offers many opportunities to sustain and build on the great work Amtrak is doing.

Important to include in a reauthorization of Amtrak are the provisions of Section 205 of PRIIA 2008, which allow for the repayment or restructuring of Amtrak's debt by the Department of Treasury. Using its authority under this provision, the Treasury Department has worked with the U.S. Department of Transportation and Amtrak to exercise early buyout options on 13 leases held by Amtrak for its train equipment, producing savings for Amtrak, and by extension the taxpayer, by avoiding future rent and end-of-lease payments—payments which Amtrak otherwise would have relied on the government to fund. However, these provisions expire in FY 2013, even though additional buyout opportunities and their associated savings remain. If the provisions of Section 205 of PRIIA were reauthorized, an additional 33 leases could be terminated over Fiscal Years 2014 to 2019. This would entail an up-front cost of \$572 million, but would save \$965 million in future payments, a net savings of \$393 million.

Last year, Amtrak logged its best ridership year ever with more than 31 million passengers. Despite this achievement, some political leaders refuse to acknowledge the economic advantages of this increase in ridership. Unfortunately, some members of Congress are seeking to divest in Amtrak or attempt to outsource good jobs for Amtrak's front line workers by pointing to straw man issues such as cheeseburger costs. It is important to note that these on-board service employees provide more than a good meal—they are some of the first responders if a safety problem occurs on board.

And for those critics of Amtrak who demand private investment: Amtrak's long-term plan for the Northeast Corridor provides a template for a public/private partnership. We believe that such a partnership should never be subordinate to the public interest—or the interests of the professional rail employees—to private profits or investment strategies. That said, such partnerships would improve service and provide the public with greater transportation choices in decades to come.

PRIIA's reauthorization should also help foster a sustained national rail policy. It will curb privatization schemes that fail to acknowledge the history of privatization failures and the problems of outsourcing safety to workers who are paid minimum wage and receive no benefits. The cycles of funding neglect must end.

In closing, Amtrak is vital to the Northeast Corridor. It must be part of a future moving toward a higher speed Northeast Corridor with long term funding. Amtrak is moving in the right direction, utilizing programs and provisions already in place, and its reauthorization offers many opportunities for expansion and renewal of these programs and provisions. Political will is necessary for America to compete globally by moving our people safely and efficiently via high-speed passenger rail. High-speed rail will also create good middle class jobs for a lasting economic recovery, and provide energy security for America. Again thank you, for the opportunity to address you today.

Senator COWAN. Thank you, Mr. Tolman.
Mr. Geddes?

**STATEMENT OF R. RICHARD GEDDES, ADJUNCT SCHOLAR,
AMERICAN ENTERPRISE INSTITUTE, ASSOCIATE PROFESSOR,
DEPARTMENT OF POLICY ANALYSIS AND MANAGEMENT,
AND DIRECTOR, CORNELL PROGRAM IN INFRASTRUCTURE
POLICY, CORNELL UNIVERSITY**

Mr. GEDDES. Thank you, Mr. Chairman, Senator Blunt, and other distinguished members of the Committee. I am Rick Geddes, Associate Professor in the Department of Policy Analysis and Management at Cornell University, founding director of our new Pro-

⁴“Opportunity Cost of Inaction High Speed Rail and High Performance Passenger Rail in the United States: <http://www.apta.com/resources/reportsandpublications/documents/HPPR-Cost-of-Inaction.pdf>

gram in Infrastructure Policy at Cornell, and a visiting scholar at the American Enterprise Institute.

I thank you very much for the opportunity to appear today on this important hearing regarding the future of the Northeast Corridor, which I believe is one of America's most valuable infrastructure assets.

I believe it is critical to the Nation that our policies ensure that the public realizes the greatest possible value from this critical national asset as possible. And I believe that one of the most important improvements that we could adopt are policies that help encourage more private investment and private participation in the Northeast Corridor through increased use of public-private partnerships.

Increased use of private participation, in my view, would generate a number of critical social benefits. First of all, you bring in high-powered, focused incentives to innovate and to seek new revenue sources. You may not think that economists agree on anything, but there is wide agreement in the economics profession that this type of physical infrastructure asset is exactly the type of activity where public-private partnerships can create huge value. And that is mainly because you can easily monitor the quality of contract enforcement, of contract compliance.

Second, PPPs bring in additional business acumen, knowledge, and experience sourced from a global market. It comes from all around the world, like perhaps from the U.K.

Third, fresh capital. People often talk about fresh capital brought in by public-private partnerships, and that is obviously critical in the Northeast Corridor, where we have heard about all the investment needs. So we need to go to the people who have the investment dollars in the private sector.

But there is another issue related to this that I believe is grossly underappreciated, Mr. Chairman, and that is the ability of the private sector to efficiently bear risk. Unless we transfer some of that risk inherent in operating any massive infrastructure asset to some private-sector investment, that risk by necessity would be borne by taxpayers. And I think we have learned in recent years that taxpayers are simply terrible at bearing risk. There are professional risk-bearers, and those people are called investors.

But, fourth, Mr. Chairman, I believe that another massively underappreciated benefit is that you can, through a private contract, insulate the dollars for maintenance and expansion of the asset from the budgetary process that we all know can have its ups and downs. These assets require ongoing, constant maintenance on a specific engineering schedule, Mr. Chairman. And one of the ways we can guarantee that is through a long-term contract that says maintenance is part of the duty of the private-sector partner. That insulates all of that from the budget process.

Finally, I believe that one of the most important elements of public-private partnerships is that you introduce what I think economists believe is the single most powerful force for social good that we know of, and that is competition. In other words, you can get competition injected, competition on any margin you want—on price, on quality, speed of service, how well you maintain the asset—through a contracting approach.

Essentially, the contracting approach enforces a transparent, high quality of service and high-quality asset maintenance standards that can be enforced, they can be legally enforced, through a PPP contract. Under the current system, if there is deferred maintenance, how do you stop that? Well, through a private contract, there are legal mechanisms to stop that.

I believe that these benefits can be captured for all of America through increased use of public-private partnerships on the Northeast Corridor. Greater use of public-private partnerships, I believe, would not be a major departure from the status quo. As we know, the government is effectively already contracting with Amtrak, which is a private company, it is a private law company with shareholders, to perform this service. It is just that Amtrak is the only one that is able to provide that service, but I believe there are many other opportunities for using PPPs on the Northeast Corridor.

A PPP would not merely inject competition. If the P3 were for train operations, you would be able to attract all these other additional benefits.

Just to provide one final example that I believe is concrete, Mr. Chairman, a public-private partnership could be used in the Gateway Tunnel that Mr. Boardman just mentioned very effectively because you have a dedicated source of revenue specific to that facility, which is a pretty low-risk source of revenue, that I believe would effectively attract a lot of private investment to help get that project done. As we know, it is a critical project, but it lacks funding and financing, and I believe that is where the private sector could play a large role.

I could provide many other examples of successful P3s, Mr. Chairman, but in the interest of time, I will stop there. And I just want to conclude that we should try to encourage that use. And I am happy to answer your questions. Thank you.

[The prepared statement of Mr. Geddes follows:]

PREPARED STATEMENT OF R. RICHARD GEDDES, ADJUNCT SCHOLAR, AMERICAN ENTERPRISE INSTITUTE,* ASSOCIATE PROFESSOR, DEPARTMENT OF POLICY ANALYSIS AND MANAGEMENT, AND DIRECTOR, CORNELL PROGRAM IN INFRASTRUCTURE POLICY, CORNELL UNIVERSITY

Chairman Rockefeller, Ranking Member Thune, and distinguished Members of the Committee:

Thank you for the opportunity to submit testimony to the Senate Committee on Commerce, Science, and Transportation hearing entitled, "The Future of Passenger Rail: What's Next for the Northeast Corridor?" I am R. Richard Geddes, Associate Professor in the Department of Policy Analysis and Management at Cornell University, Director of the Cornell Program in Infrastructure Policy, and Visiting Scholar at the American Enterprise Institute.

In my view, one of the most important policy innovations that could be undertaken to revitalize passenger service on the Northeast Corridor (NEC) is to increase the role of private participants in a variety of activities. I thus focus on opportunities to better utilize private investment to enhance and expand passenger rail service in the NEC. Greater private participation in the design, construction, operation, maintenance, and financing of passenger rail service has the potential to improve significantly the overall experience of passengers traveling on the NEC as well as the value realized by American citizens from this critical national asset. Increased private participation is not a policy panacea. However, if properly implemented,

*The views expressed in this testimony are those of the author alone and do not necessarily represent those of the American Enterprise Institute.

such participation through greater use of public-private partnerships (PPPs) will address a set of problems that continue to hamper the development of high-quality passenger rail in the United States, particularly on this high-density corridor. Social benefits of PPPs stem from four main qualities associated with enhanced private participation:

- High-powered, focused incentives to innovate, to seek new revenue, and to better manage costs in a sector where high-powered incentives are socially beneficial
- Business acumen, knowledge, and experience sourced from a global market for infrastructure operators
- Additional capital and highly developed risk-bearing services through access to new debt and equity capital markets
- The utilization of a competitive contracting approach that enforces high-quality service and asset maintenance, and allows the discipline of competition to be harnessed for the public good

Such benefits of PPPs are currently being realized through enhanced private participation in many aspects of the U.S. transportation sector. For example, the entire U.S. freight rail system can be viewed as a large, multi-faceted PPP. The public sector there provided the right of way and created the legal/institutional setting for contracting. Freight rail companies maintain and operate tracks, signaling, and rolling stock, while private investors provide capital, bear risk, focused incentives, and budgetary discipline. It is thus no accident that the grade assigned to freight rail infrastructure by the American Society of Civil Engineers in its 2013 Report Card for America's Infrastructure improved from a C- in 2009 to a B in 2013, the largest improvement of any sector. The improvement was mainly due to billions of added private investment.

Private expertise and resources have long been instrumental in designing and building highways, bridges, and tunnels in the United States. Private partners are increasingly called upon to provide capital, bear risk, and offer expertise associated with the operation of major transportation facilities such as toll roads and HOT lanes. Private firms are also now successfully operating large urban U.S. bus systems, such as in Nassau County, Long Island. They are making even larger contributions in many developed and developing countries' transportation systems. Private participation is also significant in other U.S. industries that require heavy investment in physical infrastructure, and which share a network structure, including aviation water, sewerage, and energy. For example, over half of all electric generating capacity in the United States is now provided by investor-owned utilities.

PPPs are the key contractual vehicle for incorporating private investment into the provision and operation of transportation infrastructure such as the NEC. The term "PPP" refers to a contractual relationship between a public-sector project sponsor and a private sector firm or firms coordinating to provide a critical public good or service. A PPP is subject to the standard rules of contracting, with clear performance standards linked to readily observable metrics. It is useful to think of a PPP as one application of a broader contracting approach.

There are many ways in which greater private participation on the NEC through PPPs will improve social welfare. Private participation can enhance welfare by creating new types of service, by generating more revenue from existing assets, by improving the quality of existing services, and by lowering the cost of providing a given service. It is useful to distinguish between two broad areas through which private firms can participate on the NEC. Private investors can be asked to make long-lived, sunk investments in transportation infrastructure, such as in tracks, stations, yards, right-of-way, signaling, etc. on which they will require assurance of a rate of return over time sufficient to compensate them for risk assumed. After investing, private partners often also maintain and operate the infrastructure. Institutional arrangements in this case must be designed to make such long-term irreversible investment rational in order to attract risk capital.

In the second area, private partners contribute by bringing capital, risk-bearing services, focused incentives, and expertise to the management of existing transportation assets. Although substantial investment in technology, upgrades, and renovation may be required, policy in this case is less focused on ensuring the security of long-term investment returns than on capturing the social benefits of greater innovation and expertise in managing existing assets. I focus on the role of private participants in this second capacity because many of the long-lived assets required to operate the NEC are already in place. It is important to stress that, in all cases, actual ownership of transportation assets remains with the public sector, and under

enhanced public control through transparent contracts that include clear, enforceable performance standards.

Importantly, increased private, for-profit participation may not be appropriate for the provision of all goods and services. A consensus has emerged in economics that private participation may not be efficient where contracting with a private partner is complex and costly due to the inability to oversee—or “monitor”—the quality of service provided. To offer a possible example, one may be concerned about contracting out the operation of a wildlife sanctuary to a private firm for fear that the operator would not maintain the environment in the sanctuary to a certain socially desirable standard, which is difficult to monitor. Stated differently, the quality of the wildlife’s environment could be costly to contract over because quality of performance is difficult for the public contract sponsor to observe.

Because they involve “hard” assets, the types of activities being considered for increased private participation on the NEC are, however, precisely those activities where the private partner’s performance is readily observable. The variety of metrics indicating how well stations, yards, signaling, and trains themselves are operated are readily observable. They can be provided for in a contract with measurable performance standards and clear enforcement provisions. Private participation on the NEC is thus likely to improve social welfare substantially through better performance. Perhaps more importantly, the enormous value locked within this critical national asset can be realized for all citizens through upfront concession payments, as I describe below.

Opportunities for Value Capture on the NEC

The entity we refer to as the “Northeast Corridor” is in fact a large set of transportation assets, each of which is valuable, and many of which are vastly underutilized under existing policies. The incentives, expertise and resources associated with private participation allow for the substantial value latent in those assets to be both increased and captured.

Competitive concession bidding (which can only be achieved by including private participants) is the key mechanism through which latent asset value can be realized. For example, the substantial value inherent in improving the management, maintenance and operation of a single station on the NEC can be extracted by requiring potential private partners (which may include a consortium of firms) to bid on the basis of the largest upfront concession payment they will offer to perform those services. Private partners bring high-powered incentives to enhance the station’s value as much as possible. This is because private participation includes well-defined residual claimants who stand to capture value created by operating the station more efficiently (a residual claim refers to the explicit property right to capture the profits from an economic activity). This is in contrast to current government operation, where no well-defined group can capture the value created, so operation remains inefficient. Because they have such a large effect on incentives, the concepts of residual claims and residual claimants are critical to understanding how private participation generates enhanced value from NEC assets. Indeed, one can think of the concept of “value capture” as virtually synonymous with well-defined property rights, which include the right to capture value created by the property in question.

To continue with the station operation example, a private residual claimant generates additional value from operations in numerous ways. A private operator has the incentives, skills and resources to generate the greatest value possible from the station. This can be done through both revenue enhancement and through cost reduction, although economic studies of privatization in the former East Bloc countries indicate that the largest gains come from innovations to raise more revenue. The partner may be able to increase revenue opportunities through more intensive use of concessions for food and beverage service, through more intensive use of shop concessions, through waiting-room naming opportunities, real estate development opportunities near stations, and many other possibilities. Through restoration and innovation, revenue opportunities can take advantage of the historic nature of the NEC’s critical infrastructure facilities, some of which predate the First World War. By creating well-defined residual claimants and requiring them to bid against one another for station operating rights, upfront concession payments allow society to immediately realize the new value created.

A highway transportation PPP within the NEC provides another example. In January 2012, the Maryland Transportation Authority announced approval of a 35-year PPP concession for the redevelopment and operation of two travel plazas (Maryland House and Chesapeake House) on I-95 in Northeast Maryland. As an illustration of the private sector’s access to capital, the concessionaire, Areas USA, will invest \$56 million to redesign and rebuild the aging travel plazas, while the State will receive an estimated \$400 million in added revenue over the life of the concession.

The travel plaza PPP came on the heels of Maryland's PPP agreement with a private partner to renovate and operate the Seagirt Marine Terminal in Baltimore. Under that agreement, the Maryland Port Administration leased its 200-acre marine terminal to Ports America. In return, Ports America will build a container berth with a 50 foot depth. This will allow the Port to accommodate ships with a larger draft, which will attract more shipping.

A third example is provided by the PPP completed in June 2011 between Viola Transportation and Nassau County, New York to manage and operate all aspects of its transit service, which includes almost 300 buses and 180 para-transit vehicles. With a population of 1.3 million people, the Nassau County system is now the Nation's largest privately operated municipal bus service. Although the PPP is relatively new, the early assessment is positive, and holds important lessons for the NEC. Buses are cleaner and more reliable due to a renewed emphasis on service quality and on customer needs. That enhanced reliability has generated greater ridership. Viola adopted a new, customer friendly website, and developed innovative visual tools that make Nassau's buses more appealing to passengers. Improvements have occurred without negatively impacting passengers. Fares were not increased and routes were not eliminated. Because of its operational focus, the Nassau bus contract has been termed a public-private operating partnership, or PPOP.

To apply this approach to NEC infrastructure, a PPP could be utilized to help construct the proposed Gateway tunnel for passenger rail traffic under the Hudson River. Such a PPP would rely on private financing, but would be funded through charges to the freight, commuter, and Amtrak trains that utilize the tunnel. The tunnel could be operated under a "real toll" PPP in which the private partner received the toll revenue directly, or under an "availability payments" type PPP in which the public sector receives the toll revenue, but then compensates the private partner based on pre-determined, transparent performance metrics. The project is estimated to cost \$14.5 billion, but funding has not yet been identified. Such a project provides an ideal opportunity to leverage the power of capital markets to generate the most capital possible from a given revenue stream.

In each example, the use of a PPP identified and tasked skilled, motivated, well-defined residual claimants with an incentive to maximize facility value. Enforceable contracts that include transparent performance standards can be used. The PPPs also brought additional capital and risk-bearing skills to bear. The citizens of Maryland and New York will share in the value created by private partners. A similar approach can be applied to other aspects of the NEC, particularly in passenger rail.

Opportunities for contracting operations, improvements, expansion, and management of NEC facilities can occur at different levels in the delivery process. The public PPP sponsor must decide how broadly versus how deep into the process it wishes to contract. At the highest, most aggregated level, operations, maintenance, and expansion of the entire NEC, including all train operations, could be contracted to a single private entity, which may represent an affiliated group of firms. Although the resulting contract would likely be very complex—and would require care and expertise to oversee—citizens would share in the massive value created by receiving one large upfront concession payment for the entire line. Because of the massive value of the transportation alternative provided by the NEC, such a payment would likely be very large. This is consistent with the substantial values realized by concession payments in other recent U.S. transportation PPPs.

The public sponsor could instead undertake private participation deeper down into NEC's operations. For example, station management could be competitively bid through a single management contract, with the management of ticketing, for example, undertaken through a separate entity. Still deeper into operations, the management of on-board food and beverage services, as well as in-station food, beverage, and newsstands could be competitively awarded through a different PPP. Additional on-board revenue opportunities include advertising on rolling stock, and advertising along the route. Increased private participation presents numerous clear opportunities to capture additional value from existing assets. The key decision is how far into process details should the public PPP sponsor execute and monitor contracts on the NEC versus how much it should delegate those responsibilities.

Value Revelation through PPP Bidding

An important insight from the economics literature on PPPs is that it is difficult to know the value inherent in an infrastructure asset (such as the NEC) until it has been assigned a value through competitive bidding. That is, in addition to allowing citizens to capture the value of the infrastructure they own, a key purpose of competitive PPP bidding is to reveal the true value of the assets in question. Importantly, such bidding will reveal value based on the financing and implementation of the latest technological innovations, since private partners have strong incentives

to adopt such technologies. However, the effects of new technology implementation that accompany private participation on both revenue opportunities and on cost reduction are virtually unknowable until they are implemented. This is highlighted by the fact that state and local governments are sometimes surprised by the large size of the upfront concession fees they are offered for brownfield PPP leases of highway assets, indicating that those assets were more valuable than previously thought. Importantly, value under-estimation often leads to under-investment in asset maintenance, which has plagued many U.S. transportation assets.

When more PPPs are used, the role of the public sector changes—and becomes more specialized—as private partners’ participation grows. The public partner’s role shifts from being a service provider to being a designer and monitor of contracts with private partners. Like any business, the public sector must decide where its core competency lies. There is little reason to believe that train station operation, for example, is a core government competency. Indeed, the benefits of contracting out train operations to private operators are being realized in other countries.

An objective assessment of which aspects of the NEC lie within the government’s core competency as a service provider should be undertaken, and those aspects that are not core public sector competencies should be contracted to private partners who are expert in those activities. Once non-core competencies are determined, the public sponsor may need to develop additional skills in contract design, monitoring, and enforcement.

An added social benefit of the PPP approach is simply that a transparent contract exists. The contract clarifies such issues as the actions that constitute adequate performance. The PPP approach thus encourages the public sponsor to reflect upon, and articulate, what specific actions by the private partner constitute excellent, moderate, or poor performance. This may include metrics about key issues, such as the reliability and frequency of train travel, but also more detailed considerations such as the cleanliness of cabins, restrooms, and dining cars. The PPP approach thus improves the public’s control over NEC assets by introducing a transparent, enforceable contract into its operation.

NEC Value Improvements Generated by Cost Management and Risk Assumption

An additional way in which citizens are able to realize added value via PPP concessions on the NEC is through the private sector’s sharper incentives, resources, and skill in managing costs. Indeed, such incentives are referred to as “high powered” in the economics literature. Such cost savings will be realized by citizens through a larger upfront concession payment. Moreover, a lower cost of service may also depend on access to capital markets, since the social benefit of new technology often manifests itself through lower costs for the same type and quality of service.

A final, often-stated social benefit of including private partners is risk assumption. Train operations on the NEC are inherently risky. They include operational risks, such as bridge or tunnel problems, but also financial risk associated with changes in ridership. Under the current approach in the United States, taxpayers assume virtually all of the substantial risks associated with designing, constructing, operating, and maintaining passenger rail systems. Through a PPP, some of those risks can be allocated to the private partner, thus reducing taxpayers’ risk exposure. Because private investors are experts in pricing and bearing risk, this is an important benefit.

Finally, a hallmark of the PPP approach is its inherently flexibility. The range of ways in which private participation can be incorporated on the NEC appears to be limited only by the creativity of the contracting parties. For the reasons I outline above, private participation in the provision of passenger rail service in the United States through greater PPP use should be encouraged.

Senator COWAN. Thank you, Mr. Geddes.

Thanks to the panel as a whole. Very informative testimony. Sounds like we are going to have a robust conversation and debate once we get into the examination from my colleagues here.

I am going to exercise my prerogative in my pseudo-role as Chairman for today just to issue a few brief opening comments and then kick it over to questioning.

First, I want to thank Chairman Rockefeller for convening this hearing about the future of the Northeast Corridor. Obviously, being a Senator from Massachusetts, this is particularly relevant

and important to me. And I know it may not stretch to the other parts of the country represented by the Senators here, but I know they are equally interested, passionate, and concerned about the issues we are talking about today.

Passenger rail is an important component of our nation's transportation infrastructure no matter where it is located, and concerns about safety, capabilities, and speed of our rail network are universal. Again, perhaps it is nowhere more relevant and important than to those of us in the Northeast, where congested highways and airports increase pollution and cost tens of billions of dollars every year in lost productivity.

Unfortunately, as you have all said, the infrastructure we put in place long ago cannot keep pace with current demands or those we anticipate. Our stations and lines are stretched too thin, and service is delayed, disrupted, and slower as a result of the aging infrastructure.

It is an opportunity for me to remind you all of South Station in Boston, which dates back to 1899. It is a beautiful building, but it is not nearly large or sophisticated enough to handle the growing passenger rail service needs. That is why the state of Massachusetts has proposed a critical expansion to the South Station that would not only allow for increased ridership on current lines but would also open the door to expanding access for residents in the south coast of Massachusetts and beyond.

Our businesses are telling us that we are losing our competitiveness because our infrastructure is falling apart. Too many bridges and roads are not safe, and experts say it may cost as much as \$3 trillion over the next decade just to bring existing infrastructure to acceptable levels. Thousands of needed construction jobs across the country could be realized if we fully fund our infrastructure deficit.

Now, we know that resources are not unlimited, and we have a responsibility to be sure we are getting the most out of the dollars we spend. But I am a big proponent of the notion that investment in infrastructure is a smart investment and a needed one.

And we have to look at new and innovative ways to bring private capital into the mix. I am a strong supporter of TIFIA grants, but they are clearly not enough, and we have to look for new, additional ways to finance the level of investment we need, especially those projects that have a national benefit or are critical to the economics of a region, particularly the Northeast.

And, with that, I have more, but I will put that into the record. And I will exercise my prerogative again and ask Senator Blunt if he has questions for the panel at this time.

Senator BLUNT. Thank you, Chairman. I do.

I mentioned when Chairman Cowan arrived that if he hadn't shown up, Senator Johnson and I were going to just privatize the entire system. But he got here to—

[Laughter.]

Senator BLUNT.—protect the hearing, and so we are not going to do that.

I am interested—Mr. Boardman, what about that last comment that Mr. Geddes made about a taking a specific asset, like the tunnel, that has a stream of revenue, and how dependent are you on

that stream of revenue for other operations? And just respond to that for me.

Mr. BOARDMAN. I think the real revenue would come from other public agencies. For example, Amtrak doesn't have nearly the number of trains operating through the new tunnels as would New Jersey Transit, for example. So you do have policy running into policy, Senator, to some extent, depending on what another public agency, such as New Jersey, would want to charge its passengers.

But the kinds of things that Rick is talking about, I think, are things that we can consider for the future if you have a long-term, reliable source of funding that comes out of the Federal Government. It really takes that level of investment to make that happen.

When Perry Offutt was here, who was one of the investment folks, he really talked about the private sector being in for a project something like that or even smaller, perhaps, at about 15 percent. But he was also looking at that consistent funding; otherwise, the risk level is too high for them to really step in and do something.

So it is complex, and I think Rick has thought about a lot of those issues. But the practical nature of making that happen on a working railroad, which is I think part of what Jim Steer was talking about, is also problematic.

Senator BLUNT. Yes, let me go to Mr. Steer.

I was going to ask, based on what Mr. Boardman said, the idea of a consistent enough governmental funding, what you saw on the West Coast corridor, how do you kind of link those two comments together of your panelists on either end of the table there?

Mr. STEER. OK, well, I think that there is an awful lot to do to get to a position where the kind of private-sector funding that Mr. Geddes has talked about actually could be realized.

If you think about it, taking the Gateway as an example of the next big project perhaps, the income stream to remunerate a private-sector investor under a PPP there would probably be what is known as the availability payment. They would look for each year, each time a train goes over, I get a return, because I am the private-sector investor, I have spent \$15 billion building these bridges, tunnels, expanding Penn Station.

So, first of all, I want to be pretty sure those trains are going to run. Actually, I want to know if something is going to run on the old tunnels, as well, so you are going to have to put those in the picture. And I am going to want to know that whatever those charges are, and they are set to be at the beginning of the contract, that I can rely on them not changing. And that might be a tricky thing to do because the kind of term of contract here is probably going to be 20, 25 years to make this work. You are going to need a good period of earning.

Now, look, the concept is great, because we all know there is private money looking for this kind of reliable, dependable, steady-state, long-term return. But you do have to have the apparatus in place to give the assurance to investors that they are going to get that return. An independent rail regulator, for instance, is what we have in the U.K. We thought we needed it in a time when we weren't expanding the railroad. As it turns out, it is a fantastic device to help secure that kind of private-sector funding. But there

is work to be done to get that kind of arrangement in place, I would say.

Senator BLUNT. Mr. Geddes, do you envision this to be significantly different than, like, Indiana selling some of its highways to a private investor to maintain and depreciate—I assume they depreciate those highways out, which is another advantage to them.

I am just trying to figure this out. I am not trying to be very crafty here in my question. I am just trying to figure out how these—these three things don't sound like, to me, they are that far apart really.

Mr. GEDDES. Thank you, Senator. That is a terrific question.

To me, yes, there is a critical difference between what happened in Indiana on the Indiana Toll Road and what I think we are talking about with, for example, the Gateway Tunnel in the Northeast Corridor. In my view, a key difference is that the Indiana Toll Road was built, it was priced, it was tolled already, prior to the PPP being taken over. It is what is called a brownfield lease.

Now, a tremendous investment in the Indiana Toll Road was necessary, Senator, to just get it up to standard. And the tolls needed to be adjusted, I think. But what we are talking about here is more of what we would call a greenfield project, which is the construction of a new facility for which we do not yet charge.

So a key, absolutely key issue here is charging for the use of the asset, whether it be per mile or per ton, whatever it is. And we could even talk about varying that charge according to peak times, like we do for electricity and a lot of other utilities.

So if we were building new capacity here, the demand is more uncertain. We don't know exactly what the demand is going to be. That is a typical problem with a greenfield project. On a brownfield project like the Indiana Toll Road, you know how many trucks and cars are using it already, so your demand risk is lower.

That is why I think the private sector is so important. As I stressed, the private sector is good not only at providing capital and operations, they are also good at bearing risk. And we as a society would be taking on a lot of risk by building a new tunnel, but we still have a pretty good idea that there would be a lot of demand for that tunnel. So I think we would get a lot of up-front capital going into the construction of a new tunnel.

I don't know if I am getting to your—

Senator BLUNT. No, no, you do.

Mr. GEDDES.—question. But—

Senator BLUNT. And I am going to ask one question—

Mr. GEDDES.—the key thing, Senator, is that pricing issue.

Senator BLUNT. And, Mr. Redeker, I assume in your report one of the things you talk about is the additional infrastructure you need, whether it is a new tunnel or an additional bridge, as well as maintaining current infrastructure, whenever I look at that Northeast Corridor critical needs report?

Mr. REDEKER. Yes, the critical needs, at this point, is really a look at the current infrastructure and what it needs to sustain itself.

Senator BLUNT. What the current infrastructure needs.

Mr. REDEKER. It may add capacity by doing investments in that infrastructure. We are partnering with FRA on that future through

the NEC FUTURE process and where that new infrastructure needs to be or how much of it to build under what scenarios.

Senator BLUNT. I assume I may have time later for a couple of other questions, Mr. Cowan, I will—thank you, Chairman.

Senator COWAN. Thank you, Senator.
Senator Johnson?

**STATEMENT OF HON. RON JOHNSON,
U.S. SENATOR FROM WISCONSIN**

Senator JOHNSON. Thank you, Mr. Chairman.

I am new to the Committee, new to this issue, so I am going to ask some pretty basic questions. I am also an accountant, so I like numbers.

Can you give me what level of revenue is going up and down the Northeast Corridor right now? Is there a figure on that?

Mr. BOARDMAN. It is over a billion at this point in time. But in terms of the number that is coming to my mind, the revenue is between \$200 million and \$300 million above what our costs are to operate on the corridor without capital.

Senator JOHNSON. Now, is that just Amtrak or is that total revenue?

Mr. BOARDMAN. That is just Amtrak.

Senator JOHNSON. Just Amtrak. Do you know total traffic over the Northeast Corridor?

Mr. BOARDMAN. The total traffic is about 260 million passenger trips per year.

Senator JOHNSON. OK, I am talking revenue, though, because I—

Mr. BOARDMAN. I don't have that.

Senator JOHNSON.—want to get down to dollars.

Mr. BOARDMAN. Does the Commission have that, Jim? No, I don't think so.

Mr. REDEKER. I would say we don't at this point.

Mr. BOARDMAN. We could get that, but—

Senator JOHNSON. OK. That is kind of critical.

What are we talking about in terms of maintenance infrastructure, Mr. Redeker, in terms of just what we need to do to invest to maintain what we have? I mean, a ballpark figure.

Mr. REDEKER. Yes, so we have put together this needs report which breaks it up by segment, into what each segment needs. And this is multiple billions of dollars to reach a state of good repair on the infrastructure, so capital investments, the ongoing operating costs in addition to Amtrak's.

The commuter railroads are not profitable, typically, across the corridor. They are very efficient as a transportation mode. I know for the New Haven Line we are running at about 75 percent cost recovery. So it is a subsidized operation. So when you throw the commuter operations on top of the Amtrak operations, from the operating and maintenance side, it is not the same as the Amtrak-only operation.

Senator JOHNSON. OK, "multiple billions." Are you talking \$10 billion? Are you talking \$15 billion?

Mr. REDEKER. Well, so we have identified a period of time that we believe there is an infrastructure need. Total number—

Mr. BOARDMAN. I could tell you that. We are behind right now about \$5.1 billion in terms of bringing it up to a state of good repair.

And we are putting in whatever the Federal Government allows us to do on capital for each year. And there is the appropriation that comes from the Federal Government. It could be a half a billion dollars, and it could be over a billion dollars, depending on what is available.

Senator JOHNSON. Well, how much does Amtrak lose on the Northeast Corridor, then, every year?

Mr. BOARDMAN. The entire amount of the capital investment, the way Congress figures it, is what Amtrak loses.

Senator JOHNSON. I am not interested in the way Congress figures it. What does your profit and loss look like? I mean, so you have a billion dollars in revenue; how much did you lose?

Mr. BOARDMAN. Whatever we put in to the capital.

Senator JOHNSON. Which is how much?

Mr. BOARDMAN. It depends on the year, sir.

Senator JOHNSON. Well, last year—

Mr. BOARDMAN. You only provide money every year. You don't give us, as with the highway side for 5 years.

Senator JOHNSON. This isn't trying to be hostile.

Mr. BOARDMAN. No, no, I understand, I understand.

Senator JOHNSON. So do you do an annual income statement at all?

Mr. BOARDMAN. Yes.

Senator JOHNSON. So how much would you consider your loss per year?

Mr. BOARDMAN. I will get a real number for you and get it back to you.

Senator JOHNSON. Can you give me a ballpark just for discussion here?

Mr. BOARDMAN. Not in the way you are asking the question, I can't, no, sir.

Senator JOHNSON. OK, well, that is a problem when you are trying to figure out how to privatize something. Wow. So you can't tell me how much you lose in a year?

Mr. BOARDMAN. I can tell you what the whole company loses, but—

Senator JOHNSON. OK. How much—

Mr. BOARDMAN. On the Northeast Corridor itself, we make about \$300 million over the investment—let me see if I can figure it out here. I am talking out loud. Between \$200 million and \$300 million over our operating cost. And the Federal Government provides an investment for us in the neighborhood of \$500 million a year. So we are losing probably a couple hundred million, \$200 million to \$300 million, a year.

Senator JOHNSON. OK.

Mr. BOARDMAN. And if you add the ARRA funding or if you add the extra funding we have had, we would lose a greater amount of that because we would have a greater investment in infrastructure.

Senator JOHNSON. So, total, what does Amtrak lose a year, then, in total?

Mr. BOARDMAN. It is on our long-distance trains and those that are the state corridors. We are losing, this year, I think around \$400 million to \$500 million.

Senator JOHNSON. OK. And that is inclusive of what you get subsidized by the Federal Government?

Mr. BOARDMAN. Yes.

Senator JOHNSON. So, in other words, the Federal Government pumps money in, you count that as revenue, and then you still lose \$500 million.

Mr. BOARDMAN. No, we count that all as subsidy. All the Federal Government comes in for is considered a subsidy for the capital side, which is the Northeast Corridor for the most part, and you take all of our profits off the Northeast Corridor and you put that into long-distance trains, and then what is left is the subsidy for long-distance trains and state corridors.

Senator JOHNSON. OK. But you say you lose about half a billion dollars a year?

Mr. BOARDMAN. Yes.

Senator JOHNSON. \$500 million a year.

Mr. BOARDMAN. \$400 million to \$500 million.

Senator JOHNSON. But is that exclusive of the subsidy, is what I am asking you, or is that after the subsidy? So, in other words, if you get \$2 billion worth of revenue, you get half a billion dollars' worth of subsidy from the Federal Government, you still lose \$500 million.

Mr. BOARDMAN. Well, it includes all of the subsidy. It includes everything from the Federal Government.

Senator JOHNSON. Let me just ask one question. Have you tried adjusting prices so you don't lose money?

Mr. BOARDMAN. Yes.

Senator JOHNSON. And what happens?

Mr. BOARDMAN. On the Northeast Corridor, we have increased revenue. On the long-distance trains, that is not possible.

Senator JOHNSON. OK.

Thank you, Mr. Chairman.

Senator COWAN. Senator Nelson?

STATEMENT OF HON. BILL NELSON, U.S. SENATOR FROM FLORIDA

Senator NELSON. Just to interpret what you said, you put it all together, what you get in revenue and what you get from the Federal Government, and you are losing, the big Amtrak, everything, somewhere around \$400 million to \$500 million a year?

Mr. BOARDMAN. Yes, sir.

Senator NELSON. OK. That is what I thought was said.

Now, I am from Florida. Sadly, the attempt to build high-speed rail was rejected by our Governor, and we had a project ready to go. And then when the Florida Department of Transportation estimates came out, it would have shown that it would have actually made \$10 million in the first year on the expected ridership. This was the Governor's own department. And by the tenth year, it was expected to be making \$30 million a year.

So that is gone. And that was just one leg of high-speed rail. That was on the least-transited leg, from Tampa to Orlando.

We now have a private enterprise, the Florida East Coast Railway, that wants to do a higher-speed rail on their own line from Miami up to Cocoa and then do an extension paralleling a limited-access highway right to the Orlando Airport. So you would now have high-speed rail from Orlando to West Palm, slower speed but still fast from West Palm south to Fort Lauderdale. That is the second stop, or the third stop with Orlando being the first, and the last stop, Miami, and then reverse.

Now, my question to you is, what do you think about that? You are the head of Amtrak. This would actually be a competitor to you because you don't have a lot of ridership on your line that goes down the center of the state.

Mr. BOARDMAN. We actually have quite a bit of ridership, but I think it would be great for Florida if that happened.

Senator NELSON. Is this entirely a private enterprise, or is Amtrak in any way involved?

Mr. BOARDMAN. Well, they are entirely a private enterprise the way it exists now. I have been down to talk to Secretary Prasad. We have looked at what Amtrak could do and have talked to him about the potential of operating along the Florida East Coast because the All Aboard Florida service really was going to stop at West Palm Beach and not stop beyond that.

Senator NELSON. That is correct.

Mr. BOARDMAN. So I think the Florida folks are interested in making sure that it was equitable, but we don't know yet what they really want to do, at this point in time.

Senator NELSON. Well, what I interpret they want to do is, they own the tracks—

Mr. BOARDMAN. No, no, I meant the state, sir. I didn't mean—

Senator NELSON. Oh, what the state—

Mr. BOARDMAN. I understand what the—

Senator NELSON. Well, that is true. I mean, the state has to give them the ability on the state right-of-way along this expressway from the east coast of Florida where the FEC railroad tracks are all the way to the Orlando Airport. And the good news there is there is a highway expressway, and so there is right-of-way there. And so they can put a track there, and it can go right to the Orlando Airport.

And, apparently, according to these folks, Florida East Coast Railway, apparently it looks like it could be a moneymaker. Because they think they can do the trip in 3 hours from Orlando to Miami, and you can't drive it except in 4. And if you want to fly, of course, start to finish, even though the actual flight time is 40 minutes, you have all the extra that you go through going into the airport, et cetera, et cetera.

So it is intriguing, and I wanted to know what you thought about it.

Mr. BOARDMAN. I agree with you. It is intriguing. I have my own real thoughts about how successful it will really be, whether they can do what they are talking about doing. But they certainly have a plan that, if they can execute it and it turns out that way, will be good for Florida, it will be good for the people there.

Could I go back to a question that I think Senator Johnson was asking me and probably getting frustrated with me about? Some-

body sent me a note; he says, OK, boss, the real loss after all the money is in there is zero.

And I wasn't paying attention to your question well enough, sir, and I apologize. Once you get the Federal money in, the loss is zero. There is not a continuing loss.

Senator NELSON. So there is not a \$400 million to \$500 million loss each year?

Mr. BOARDMAN. No. Once the Federal money is applied, it is a balanced book. And I think that is maybe what you were trying to get from me, was there additional loss beyond what the Feds put in.

Senator JOHNSON. Just answer me, what is the total Federal subsidy?

Mr. BOARDMAN. The total Federal subsidy this year is in that \$400 million category. And that is what I was trying to answer.

Senator NELSON. OK. So, then, my interpretation was correct. You have a \$400 million to \$500 million loss, but the Federal Government subsidizes that—

Senator JOHNSON. Correct.

Senator NELSON.—over and above what the Federal Government puts in initially.

Senator JOHNSON. No.

Senator NELSON. Not so? OK. OK.

Mr. BOARDMAN. They break even with—

Senator NELSON. All right. So if I can interpolate again—
[Laughter.]

Senator NELSON.—the Federal Government nationwide puts in \$400 million or \$500 million.

Mr. BOARDMAN. Yes.

Senator NELSON. However, in the Northeast Corridor, you have a profit of \$200 million or \$300 million.

Mr. BOARDMAN. Yes, they take that and apply that, as well. So, I mean, in the end, all of that balances us out to zero, in the end.

Senator NELSON. OK.

Mr. BOARDMAN. No loss, no gain.

Senator NELSON. With that much loss outside of the Northeast Corridor, how can you justify doing what you do, other than it is a government service?

Mr. BOARDMAN. With all due respect—

Senator NELSON. Which is what it is.

Mr. BOARDMAN.—it is what Congress has to justify.

Senator NELSON. That is right. That is right.

Senator COWAN. Thank you, Senator Nelson.

I just have a couple questions. I think we have time to go back around if folks have more questions, and I suspect they may.

Actually, a question to Mr. Steer.

Mr. Steer, you spoke about, as you said, that history has shown us that there is tremendous potential here, but in every successful model, starting with an expectation that the private investors will get the ball rolling hasn't proven to be the case and that there needs to be some, as you say, national government financing.

In light of what you have heard today and your understanding of what the needs and opportunities are, do you have an opinion as to what you think, at least in this instance as it relates to the

expansion of rail and this nation via the high-speed, the Northeast Corridor or elsewhere, what you think that level of investment might be before we could be in a position to effectively leverage private investment?

And then, Mr. Geddes, if you have an opinion on that, I would love to hear from you, as well.

Mr. STEER. OK. One way of looking at this might be just to take the Northeast Corridor first of all, Senator Cowan. And if you looked to create what I would consider to be a viable, commercial section of high-speed rail, and by that I mean something that is new-build so you don't have the risk of knowing what is the condition of the asset. It is new-build, it is clean, you have created it, which is going to take some doing. You have some work to do in institution-building, the means to charge operators for using that. That is the income stream back to the private-sector investor. Then you could look at concessioning that.

How long would that take, and what would it cost? A reasonable section of route, maybe Maryland-Delaware section of high-speed line, might be in the range of \$12 billion or \$15 billion. You build that, you get it operational. And I am suggesting this because I have seen it done elsewhere. Maybe a year or 2 after you have opened it, you know what the income charges could be, you concession it.

And you ask for your private sector, your fund, your pension funds, these kind of players in the market to come along, and they would acquire it, say, from Amtrak. And they will say, OK, we will maintain it for 30 years. Amtrak will still run the trains over it.

You could do that. But you really have to build a substantial enough piece to make it work, and it is certainly, you know, some way downstream. This isn't even the first-priority project.

I don't believe it would be anywhere near so easy to do it with Gateway, just because of its complexities with the old tunnel and Penn Station. You know, there are a lot of interdependencies to get the value out of that investment. But here, assuming a fairly clean investment of this type, that is the kind of scale of money that would be needed.

So that is public-sector money, Federal dollars, before you get to that stage. That is my opinion, anyway.

Thank you.

Senator COWAN. Thank you.

And, Mr. Geddes, if you could opine. And I would also like your thoughts on a financing model that might be borne out of an infrastructure bank, a Federal infrastructure bank.

Mr. GEDDES. OK. Thank you, Mr. Chairman. I will take your first question first.

I must say I am a little more optimistic than Mr. Steer is on the willingness of the private sector to take risks and to invest in the Northeast Corridor as it is or with the current institutional arrangements.

I think we need to appreciate that one of the huge advantages from the global infrastructure investment community's perspective of investing in the United States is our strong contractual enforcement in this country through our legal system and our strong system of property rights. Both of those legal factors make the United

States an extremely attractive environment for infrastructure investment from all over the globe. And I believe that there would be a lot of entities that would be willing to take risks on different parts of the Northeast Corridor.

I direct you to a project here in Washington, D.C., which is the construction of the HOT lanes on the Northern Virginia side of the Washington, D.C., Beltway as a public-private partnership between Transurban, which is an Australian company, and Fluor, which is U.S., the private sector taking the risk of building that new infrastructure asset and constructing it at very little government cost.

So I believe there are huge opportunities here for private-sector investment. I am a little bit more optimistic than Mr. Steer on that.

Second, Mr. Chairman, I would like to emphasize that the private-sector advantage comes from their incentive to use the existing assets to raise more revenue. So to say naming rights at stations, stations concessioning for shops and restaurants more aggressively, a whole series of things that they can do to squeeze more value out of those existing assets. I believe there is enormous latent value within the Northeast Corridor, Mr. Chairman, that a private-sector investor, if we were to take the opportunity, would really be interested in investing in.

Now, your second question, Mr. Chairman, on an infrastructure bank, I have to say that I believe the devil is in the details on a Federal infrastructure bank. The one proposal from a few years ago regarding—the structure of the infrastructure bank is important. One structure I heard was an independent agency within the executive branch, which is exactly the same structure as the U.S. Postal Service. And I am not optimistic that that structure would lead to investments purely on the basis of economic value. And so I would have to see the structure of the bank itself, Mr. Chairman, to answer wisely.

Senator COWAN. So I am going to take that as a “maybe.”

And I am going to ask Senator Blunt if he has further questions.

Senator BLUNT. Let me ask a couple, Chairman.

Mr. Tolman, I am assuming that, in terms of infrastructure, you want it to be as safe and as upgraded, as up-to-date as it can be. And do you have a particular view of how that happens, as long as it happens?

Mr. TOLMAN. We do have a view about that. And the key is, and I think Mr. Boardman testified to this, we need a long-term funding for Amtrak. And then you are going to get, as the two gentlemen to my right and left have emphasized, then you get some potential investors. But until you give Amtrak an opportunity, a 10-year investment plan, I don't see either one of these plans working, personally.

Senator BLUNT. Well, certainty in all areas is usually a helpful thing for decisionmaking, no doubt about that.

The other thing I wanted to ask you, you mentioned the Passenger Rail Investment Security Act—

Mr. TOLMAN. Yes.

Senator BLUNT.—that expires this year. What is your advice on that?

Mr. TOLMAN. Long-term funding—

Senator BLUNT. So long as we could go with a long-term point of view on this bill, this act that expires this year?

Mr. TOLMAN. Yes, positively. I said 10 years. I would say 20 years, 25 years, whatever you could do.

I mean, I have testified and been coming down to D.C. back in the 1990s from Boston, you know, praying that we are going to get some type of subsidy to keep it running for years. We have had professional people, employees, working tirelessly to keep it going, as well as a wonderful relationship currently with Amtrak management. And I think we have done a really nice job working together on both sides of the aisle. We would like to continue that.

And it would be extremely helpful to anybody employed in the industry to have some type of long-term funding and not be worrying whether they are going to be there tomorrow.

Senator BLUNT. Yes.

Mr. Redeker, you mentioned that in the area of your responsibility, you had the largest increase in service in the history of—what do you attribute that to? Obviously demand, but what do you attribute the demand to? Is it all demand, and what do you attribute the demand to?

Mr. REDEKER. Yes, I think that rail investment really does create the economic engine for the state of Connecticut. The Shore Line, which is the New Haven Line, Northeast Corridor, is one of the busiest commuter railroads in the country. The utilization of that not just to the New York CBD but actually in the reverse direction, as well, now—there are more folks coming into Connecticut than leaving Connecticut going the other way. This is the core of our economy. And it is the competition to the congested I-95 corridor.

So it is growing, it is growing consistently. It is growing on top of fare increases that have been put in place to raise revenues. And so our response to that is to add service.

At some point, we will reach congestion limits, capacity limits. But in response to that, we have added, particularly on weekends, we have added a significant increase, almost 45 trains, on the weekends, and then off-peak trains as well.

So it is a market that is not just peak work hours. It is all day long, it is all directions, it is all purposes. And I think that is because of the quality and the dependability.

Senator BLUNT. And do some of these commuter lines actually not lose money?

Mr. REDEKER. No, actually, all the lines in—

Senator BLUNT. So the more service you add, the more money you lose?

Mr. REDEKER. No, actually, most of the service we are adding now is break-even or profitable. Weekend service tends to be, for us, incrementally relatively inexpensive to add, and the revenues cover that. But we are one of the more efficient commuter rail services in the country, recovering over 75 percent of those costs.

Senator BLUNT. And who makes up the 25 percent?

Mr. REDEKER. That is the state of Connecticut.

Senator BLUNT. The state of Connecticut.

Mr. REDEKER. Yes.

Senator BLUNT. Thank you, Chairman.

Senator COWAN. Senator Johnson, further questions?

Senator JOHNSON. Yes. Thank you, Mr. Chairman.

Again, I am a private-sector guy, so I believe in it. Can you just describe to me the difference between the freight rail system and the commuter rail system? And tell me where I am wrong, because I think I know a little bit more about the freight rail system, but what percentage of the freight rail infrastructure, the track, is owned by the freight companies?

Mr. BOARDMAN. A hundred percent. And their plan is to invest about \$24 billion a year in their infrastructure. About 17 percent of that is capital investment, and the rest of it is maintenance cost. They maintain their railroad at a Class 4 track, which is a lot lower speed. And we also operate much lower speed, about 79 miles an hour, on those tracks than our own. And they have done a good job with that.

Senator JOHNSON. OK. But the freight rail system is pretty profitable, correct?

Mr. BOARDMAN. It is now, yes.

Senator JOHNSON. Mr. Geddes, you seem wanting to hop in here.

Mr. GEDDES. Thank you, Senator. I had to raise my hand there, I am sorry. But if you take a look at the most recent report from the American Society of Civil Engineers, 2013, it came out about a month ago, they rate all sectors of infrastructure in the United States.

The sector that had the largest—so it comes out every 4 years. The sector that had the largest improvement in its grade was the freight rail system. And they attribute that to the billions of dollars of—so it went from a C+ to a B+ or something. I can't recall the exact grades. But they attribute that to the massive additional private-sector investment in the infrastructure of the freight rail system to bring it up to a much better standard.

Senator JOHNSON. Would you say that one of the reasons is because of the discipline of a private-sector marketplace, the competition and the fact that not only do you have to break even, you actually have to build a surplus, and so you have a certain market discipline or pricing discipline?

Mr. GEDDES. Yes, Senator, I would attribute it to market discipline on a number of margins. You have the discipline of the capital markets. As we know, Warren Buffett bought BNSF Rail. There is a lot of capital market discipline there. There is discipline on the margin of product market competition. There is market discipline in a whole—bond markets discipline these companies through the bond rating agencies.

A whole series of market disciplines are brought in. And I believe we can capture that on the Northeast Corridor through the judicious use of public-private partnerships.

Senator JOHNSON. Well, I am just listening to the ridership and the use of those tracks. It looks like it is really at capacity. To me, from the private sector, when you are operating that close to capacity, you ought to be—

Mr. GEDDES. Expanding.

Senator JOHNSON.—expanding or at least charging for the utilization so you can actually make a profit. I mean, is it true, because the numbers are still a little confusing, is it true that the Northeast Corridor without government subsidy makes a profit, or not?

Mr. GEDDES. Are you asking me or——

Senator JOHNSON. Whoever might know.

Mr. GEDDES. I believe that economically speaking, so your Econ 101, the Northeast Corridor is an enormously profitable asset. Now——

Senator JOHNSON. But, again, I am not talking about the infrastructure surrounding it. I am talking about just the rail system itself.

Mr. GEDDES. I am, too.

Senator JOHNSON. Does it operate at a profit?

Mr. GEDDES. I don't believe under the current arrangements, probably not. But with the proper policies and institutional arrangements, I believe that the Northeast Corridor could be a very profitable asset.

Senator JOHNSON. Why not just with proper pricing?

Mr. GEDDES. Yes. Yes.

Senator JOHNSON. I mean, when you are at that level of capacity, shouldn't you be able to increase prices to be able to make a profit on the use of the asset?

Mr. GEDDES. Yes, Senator, I agree entirely. And I believe that another underappreciated benefit of private involvement is the incentive and the skills to properly price use of the asset. Pricing, as you know, is a——

Senator JOHNSON. So let me ask the other folks, why can't you, when you are operating at that high a capacity, why can't you at least break even with your own operations, without government subsidies? I mean, what prevents that from happening?

Mr. STEER. If I can attempt an answer here, I think the first key difference between the Class 1 freight railroads, which have performed very well, and the Northeast Corridor is the Northeast Corridor is a mixed-use railroad. So you have one organization, Amtrak, that owns most of it, not all of it but most of it, and runs intercity rail service, but it also supports a huge number of commuter rail services, and it supports some freight services.

So the key to getting into this and saying, oh, well, it is full, can't we charge more, which is really, you know, a pretty basic and commonsense question——

Senator JOHNSON. There you go.

Mr. STEER.—if you will forgive me, is, well, where is the pricing for the use of the infrastructure? And the fundamental first step has to be to charge for the infrastructure on a cost-reflective basis. Because——

Senator JOHNSON. So wouldn't that be the policy prescription, the first policy prescription is make sure that, rather than have the taxpayers subsidize that, we come up with a model where the people utilizing the track are actually paying for it?

Mr. STEER. Well, yes, but—and here is the “but.” And I do mean “yes” before I get to the “but.” And the “but” is, in particular, when you look at the biggest usage in the corridor, it is actually commuter rail. Commuter rail the world over needs subsidy. You will not find commuter railroads around the world—and I don't really see why the U.S. on this is——

Senator JOHNSON. But is that totally dependent on capacity utilization, though?

Mr. STEER. Well, it is just—

Senator JOHNSON. And I have been on the New York-Washington, D.C. That is a very full train almost every time.

Mr. STEER. Absolutely. But it is also a very peaky business. It is a lot of equipment that is used a couple of times in the day. Absolutely flat-out in the middle of the day, it is not used as much. And people try to make better use of it in the off-peak and weekends and so on.

The reality is you could increase the charges. The commuters won't love you for it, but you could do it.

Senator JOHNSON. Taxpayers would like it, though.

Mr. STEER. Well, yes. And no doubt those adjustments have been made. I think Mr. Redeker is saying the prices have been going up. I don't have the detail on that.

But to think that you will get to a stage where those commuter rail operations, paying properly for their access to the track, are going to be profitable in the way that rail freight is profitable in the U.S., I think the evidence is you are unlikely to reach that position.

Senator JOHNSON. But, again, you are using your kind of global perspective, in general, commuter lines, versus a specific corridor that, to me, is operating at a very high level of capacity.

Mr. STEER. It is.

Senator JOHNSON. And, again, as a business guy, I am going, boy, that is something that ought to be profitable.

Mr. STEER. Yes.

Senator JOHNSON. So that is my only point.

Thank you, Mr. Chairman.

Senator COWAN. Thank you, Senator Johnson.

I just have one final question. Actually, it is to Mr. Boardman.

Mr. Boardman, you heard in my opening comments, obviously I represent the great Commonwealth of Massachusetts, where South Station is located. It is very much near and dear in our hearts. And we believe South Station expansion is a vital opportunity for economic growth in our region.

My question to you simply is, do you agree with my assessment, sir?

Mr. BOARDMAN. We not only agree with that, I personally have supported that and Amtrak, as a policy, is supporting that. We absolutely need more space in South Station.

Senator COWAN. Well, it seems to me there is no better place to leave it, then, gentlemen.

[Laughter.]

Senator COWAN. I want to thank the panelists for their testimony today. This is an important issue. The information you provided to this Committee is important to the future of rail in America and Amtrak and the expansion of the Northeast Corridor and will help us make better decisions going forward. And I look forward, I know I speak on behalf of Chairman Rockefeller, to working with the Committee and many of you to sort of move us in that direction.

The record will remain open for 2 weeks, and this hearing is otherwise adjourned. Thank you.

[Whereupon, at 4:04 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF HON. FRANK R. LAUTENBERG,
U.S. SENATOR FROM NEW JERSEY

Mr. Chairman,

Our nation has a proud history of prioritizing investments in transportation. Great public-works projects—from the Transcontinental Railroad to the Interstate Highway System—have expanded our horizons, brought this country together, and helped make us a global economic power.

Some will say now isn't the time to make public investments. Some will say we can't afford it. But some of America's greatest infrastructure investments were made during economic downturns. And just as we had to make these previous investments to adapt to a changing country and world, new demands on our transportation system mean that we must invest in new ways to connect people and get them where they're going faster.

Over the past 40 years, our population has grown by more than 100 million, straining the infrastructure we depend on every day. Sufficed to say, the next 100 million will come much faster—so we must begin to prepare today.

Nowhere is this need more clear than in the Northeast, where the cities along the Northeast Corridor have a huge impact on the economic health of the whole country. While the area only takes up two percent of the Nation's land, we produce more than 20 percent of our nation's GDP.

The investments we need must go beyond filling potholes or fixing broken traffic lights. Simply building more highways in this highly congested region is not the answer either. Our economic success depends on improving our passenger rail system and bringing faster trains to the region. Passenger rail service on the Northeast Corridor helps businesses thrive, connects our economic centers, and helps clear the air by getting thousands of cars off our congested highways.

The Northeast Corridor plays a critical role in the region's transportation network. Rail is the preferred method of travel between New York and Washington, D.C. with rail making up 77 percent of the air-rail market. Without Amtrak service, thousands more people would be clogging our nation's highways and airspace every day. And demand continues to grow as ridership on the Corridor climbs. In 2012, more than 11 million passengers used the Corridor, a nearly five percent increase over the year before.

However, despite its success, the Northeast Corridor is operating at capacity in many places on the Corridor and constantly battling to repair aging infrastructure. In my state of New Jersey, we face problems with this aging rail infrastructure every day. Amtrak and New Jersey Transit trains that travel on the Northeast Corridor frequently face capacity and infrastructure failures traveling through the Hudson River tunnel or over the Portal Bridge, both of which are more than 100 years old. Aging electrical infrastructure also causes frequent shut downs that disrupt service and create delays for riders. When a single disruption occurs, it can create a ripple effect throughout the entire system—a delay of just 15 minutes can affect as many as 15 Amtrak and New Jersey Transit trains.

That's why I have been working with Amtrak to advance the Gateway Tunnel project, which will build a new tunnel under the Hudson River and replace the Portal Bridge—adding much needed capacity, improving aging infrastructure, and allowing for higher speed rail service. Running underneath the Hudson River, it will ease congestion, shorten travel times for commuters, and create good jobs for working families.

The Gateway Tunnel will also provide a critical transportation option in the case of a future disaster. Superstorm Sandy, which hit the East Coast last year, was a wake up call to the national and regional significance of the Corridor. When flood waters inundated the Hudson River rail tunnel and electrical systems, the Northeast Corridor was shut down and service was limited for more than a month. As a result, thousands of New Jerseyans had long, arduous commutes. Importantly, the

Gateway Tunnel will ensure that the Corridor is protected from flooding and provide an alternate route when disasters strike.

The message could not be simpler: investments in these critical infrastructure projects are urgent and vital to our country's future. We cannot continue to underfund Amtrak and turn a blind eye to the needs of one of our Nation's greatest assets. We must provide Amtrak the dedicated funding they need to bring the Corridor into a state of good repair, increase capacity, and add higher speed rail service.

Making these investments won't be easy or cheap. Everyone must play a part, including the Federal government. But we must remember that these are investments in our people and our future prosperity. They are well worth it.

Take it from me. When I was building my business, I learned firsthand—if you want to be successful tomorrow, you must begin laying the foundation today. And the same principal applies here. If we want our children and grandchildren to enjoy a better, stronger, and more dynamic country, we must make smart investments on their behalf—and that means investing in Amtrak and the Northeast Corridor.

This year, I will be working on a bill to reauthorize Amtrak and improve our passenger rail systems. One key area will be ensuring the success of Amtrak's Northeast Corridor and providing the tools they need to bring our infrastructure into the 21st Century.

I thank the Chairman for calling this hearing to launch our discussion on the next passenger rail bill and I thank our witnesses for coming to speak on the future of the Northeast Corridor.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV
TO JOSEPH H. BOARDMAN

Question 1. Many stakeholder groups are affected by the NEC. Recent rail legislation, PRIIA, set up a new organization—the Northeast Corridor Commission—to bring many of these stakeholders together. The law requires that the Commission advise on NEC's future needs and work with the stakeholders to set up fees that passenger and commuter trains must pay to access the NEC. The Commission plans to establish the ways fees should be set up by the end of 2013. Once the Commission develops the approach to setting up fees, it is unclear how the fees will be implemented and administered. Also, members of the Commission may be more interested in the NEC's projects, now they are financially contributing to these projects. Who should be responsible for implementing and administering the cost-allocation methodology; and how would that work?

Answer. The Commission has not made any decisions on these points, as it is first focused on development of the cost allocation methodology and will soon turn to implementation questions. However, paragraph (c)(2) of Section 212 of PRIIA clearly answers some aspects of this question by requiring that the methodology developed by the Commission be implemented through the access agreements between Amtrak and the NEC commuter agencies, with the Surface Transportation Board providing enforcement authority if the parties fail to implement such updated agreements. We anticipate that the Commission will monitor implementation progress, provide a forum to raise and address implementation issues, and continue to serve as the decisional body responsible for any prospective changes to methodology over time after its initial adoption.

Once the new methodology has been developed, existing access agreements between Amtrak and the commuter agencies will need to be amended to incorporate the new methodology. As the one entity that is party to every agreement that will be required to be amended, Amtrak faces a unique challenge in meeting this responsibility.

Business processes and systems will need to be modified to support the new methodology. This responsibility will mostly fall to the major infrastructure owners, including Amtrak, Metro-North Railroad, Connecticut Department of Transportation, and Massachusetts Bay Transportation Authority.

As for the general administration of the new methodology, we anticipate that the Commission will retain this role. As the new methodology is implemented, periodic reviews, updates and refinements will likely be warranted. While the allocation of costs consistent with the methodology will be handled by each infrastructure owner, cost data and operating statistics must be consistent and transparent.

Question 2. What role should states play in NEC decision making, now that they are financially contributing to it?

Answer. Section 212 of PRIIA, which required the formation of the NEC Commission, does not assume that states themselves will be funding the Northeast Corridor. Rather, PRIIA requires development of a methodology in which users of the

corridor, including Amtrak and commuter agencies, pay a “proportional” share for use of the corridor (most agencies are state entities, but not all—for example, Virginia Railway Express and SEPTA). It is also important to note that commuter agencies have been financially contributing to the Northeast Corridor for as long as they have operated on it. What will change once the new cost allocation methodology is implemented is that all users will contribute based on a uniform “fully allocated” methodology for both operating and capital costs.

That said, we expect that commuter agencies, freight railroads, and Amtrak all stand to benefit from more collaboration in the decision making affecting the NEC network. The need for a more collaborative effort has become more crucial as demand for intercity, freight and commuter rail services has grown and is now outstripping available capacity on the NEC in many segments. To make the most efficient use of existing infrastructure and to prioritize investment in new capacity projects requires region-wide, all-services, approach. The Commission has already begun to help facilitate this regional approach through the development of the Critical Infrastructure Needs report, submitted to Congress in January 2013. As stated in the report, “the expectation is that by coming together to take collective responsibility for the NEC, these disparate stakeholders will achieve a level of success that far exceeds the potential reach of any individual organization.” The Commission is currently supporting this effort by helping to coordinate data gathering in support of NEC-wide 5-year capital programs developed by the infrastructure owners and users that, when taken together, will create the first prioritized, near-term comprehensive investment program for the whole NEC.

Question 3. The Railroad Rehabilitation and Improvement Financing program (RRIF) has provided loans and loan guarantees to help finance railroad infrastructure including passenger and freight rail. Amtrak has used RRIF to replace aging rolling stock and increase capacity. However, loans have been sporadic and roughly \$33 billion of loan authority still exists. The Administration has suggested a National Infrastructure Bank for a broad range of infrastructure projects including transportation. In addition, it has suggested establishing bonds similar to the Recovery Act’s Build America Bonds. How could RRIF program loan and loan guarantees be more helpful in supporting infrastructure investment in the NEC?

Answer. As a RRIF program participant, Amtrak believes there are a number of targeted improvements that could be made to improve the applicability and attractiveness of the RRIF program for intercity rail projects and will be happy to provide such suggestions to the Committee. Amtrak may apply again in the future for RRIF loans to purchase new equipment or make investments in new infrastructure capacity that would generate new revenue, assuming RRIF’s terms are advantageous compared to other forms of available financing.

Central to any financing strategy for NEC improvements is the identification of repayment streams to service outstanding debt. Under the current circumstances where the net contributions from Amtrak NEC train operations are utilized to cover other Amtrak business line costs and access fees paid by other NEC users primarily only cover marginal operating costs and minimal capital contributions, it would be difficult to utilize the RRIF program or other financing tools to finance the backlog of state-of-good-repair and normalized replacement needs on the NEC unless federal, state or local grants could be provided to cover debt repayment, as was done with Amtrak’s initial RRIF loan in 2002. If such Amtrak train operations contributions were made available for this purpose or if, under Section 212, anticipated commuter access fees increase, then such financing methods may become potential options.

Additionally, in applying for a RRIF loan Amtrak has an unusual problem. When determining Amtrak’s risk of repayment and associated credit risk premium, the Administration has in the past maintained that it cannot consider the enactment of future legislation, including appropriations bills. Therefore, Amtrak’s risk is dealt with in the context of an insolvent corporation, despite its 40-plus year history of Federal support. In order for Amtrak to take full advantage of the RRIF program, a more realistic way to appraise the risk that it will repay a loan—perhaps in line with the way a private lender would price Amtrak’s risk and view its ability to repay loan—is necessary.

Amtrak generally supports the development of new infrastructure financing options, including an infrastructure bank aligned with USDOT, Build America Bonds, or other tax policy changes that incent investment in long-term infrastructure projects. Most critical for the future of the NEC are financing mechanisms that can help the timing challenge associated with the significant differential between early capital outlays and eventual increased financial returns, either through ticket revenues in Amtrak’s case or access fees in the case of commuter and freight railroads. Because the NEC is at or near capacity and many of the major structures are at

or past the end of their useful lives, major capital outlays must be undertaken before new capacity can be created and generate increased revenues that could help support such capital outlays.

Question 4. Would a broader infrastructure bank be more helpful in attracting private investment to the NEC than RRIF, and why?

Answer. A broader infrastructure bank that considers projects that integrate elements across sectors such as transportation, economic and community development and utilities and public works could be of use to Amtrak for many projects at key stations that involve many other sectors and have wide benefits beyond transportation.

Some versions of the infrastructure bank that have been proposed include both grants and loans. An infrastructure bank that provides grants in addition to loans would be a welcome funding source for portions of the significant capital needs on the Northeast Corridor.

An infrastructure bank that provides low interest or subsidized loans directly to private partners could provide attractive financing for capital projects and open up new opportunities for PPPs. However, as with all debt, these would need to be projects that have the potential to generate increased revenues to Amtrak that could be channeled back to repay debt costs, or would need to be backed by new and increased Federal funding streams.

Question 5. Identifying funding for addressing the maintenance backlog and making capacity improvements on the NEC would benefit intercity, regional and commuter passengers and freight movements. However, making the level of investment laid out in many planning documents is difficult given the current fiscal situation in the U.S. Please explain in detail examples of private investment that might be applicable along the NEC in the U.S.

Answer. Despite the difficult fiscal situation in the U.S., Amtrak believes that the Federal Government must be a significant partner in funding the NEC maintenance backlog if this work is to get done. The financial need to fix the backlog is simply too great to be borne by the users or private sector alone. However, there are several models of private investment that could be applied in the NEC and which may play a role in a funding and financing package to augment Federal funding of the existing infrastructure and to support the building of new capacity. Amtrak researched the role of private financing in its 2010 report, *A Vision for High-Speed Rail in the Northeast Corridor* and found that private capital financing could play a role in this program, but that the best opportunities for such investment come once systems are built and running, have demonstrated market appeal, and are generating sufficient revenue streams to attract the private sector.

Experience around the world, as the Committee has heard from other witnesses, has demonstrated that private investment in high speed rail and rail infrastructure generally only occurs after significant majority investment by the public sector, such as a national or state government, is made and that the private sector investment usually only accounts for a small share of total project costs. The use of PPPs throughout passenger rail is not widespread, and is usually focused on new, high-speed rail projects. For example, France, a leader in high-speed rail for more than 30 years only recently completed into its first major PPP, to build a rail tunnel under Pyrenees Mountains between France and Spain.

In the near term, the most likely private sector participation model in the NEC is through public-private project delivery models, such as design-build, and partial financing and/or equity for high-return, capacity increasing projects.

Question 6. What resources, legal basis, etc. need to be in place to take advantage of private capital funding?

Answer. As discussed above, a major hurdle to Amtrak entering into any version of PPPs is revenue stream risk. Under an availability payment model of PPPs, unless Amtrak has a more dependable source of revenue to repay loans, such as segregated NEC revenues, private financing will come at a premium, making this source of financing more expensive to secure. This could potentially be overcome with Federal backing that secures private loans, which would make private financing more attractive.

Even if Federal backing negates the effects of revenue risk, private financing may be more expensive than public financing because of the premium that a private sector partner would place on any of the risks it assumes through the transaction, such as construction risk, and the relatively quicker returns the private partners typically expect with their investments. It is important for Amtrak to weigh whether the cost of private financing in this case outweighs the potential benefits (*i.e.*, sharing risk, leveraging public funding, and outside expertise).

U.S. Department of Transportation/Federal Railroad Administration approval is likely to be required for any PPP, especially one that includes the transferring of an Amtrak asset, new or existing, to a private entity for ownership or management or the taking of new debt.

Question 7. The nation's passenger rail infrastructure is not currently in a "state of good repair". If the Nation invests in the NEC infrastructure to bring it in a state of good repair and move it into the 21st century, ensuring its continued maintenance and upkeep is expected to be an important protection for private sector investment. Once the NEC is in or near a state of good repair, what steps will be taken to help ensure it is maintained and that infrastructure, such as bridges, is replaced by the end of their useful lives?

Answer. The main impediment to bringing and maintaining the NEC to a state of good repair (SOGR) is the lack of reliable capital funding. The Northeast Corridor Master Plan (2010) estimated that the NEC has a total SOGR backlog of \$8.8 billion, which included \$5.2 billion on the 363 miles of the NEC Main Line and branches owned by Amtrak, \$3.2 billion on the CT-owned portion of the 56-mile NEC Main/New Haven Line, \$100 million on the NY-owned portion of the NEC Main/New Haven Line, and \$240 million on the NY-owned Albany Line. It is important to note that a significant issue to be addressed through the NEC Commission's current cost allocation efforts is what role current NEC users have in funding a portion of this backlog (largely inherited from the Penn Central era and bankruptcy), as a use-based allocation of backlog costs to users would far exceed the financial capacity of operators, agencies and states.

Once the backlog is taken care of, the corridor still requires normalized replacement, *i.e.*, regularly scheduled maintenance (such as switch and rail replacement, bridge repainting, etc) of aging infrastructure assets to replace worn out and broken components or systems which are functionally obsolete. The projected cost of normalized maintenance, from 2010 to 2030, is \$9 billion, or \$450 million per year. This is the cost of recapitalizing the existing corridor to keep it in a state of good repair and does not consider the addition of any new capacity. Amtrak believes that the users of NEC should generally be expected to cover this normalized replacement cost, once the NEC is brought up to a state of good repair.

Question 8. PRIIA required FRA and Amtrak in consultation with the Surface Transportation Board, rail carriers over whose rail lines Amtrak trains operate, States, Amtrak employees, and other groups develop new or improve existing metrics and minimum standards for measuring the performance and service quality of intercity passenger train operations. What performance measures have been developed and how has the NEC done against these new or revised performance and service quality standards?

Answer. Under Section 207 of PRIIA, metrics and standards were issued for various performance aspects of intercity passenger rail service, including for services on the NEC. The metrics and standards generally fall under 5 broad categories: Financial; On-Time Performance; Train Delays; Other Service Quality; and Public Benefits. See Docket No. FRA-2009-0016 for a listing of all the metrics and standards that were issued, including those that apply to the NEC.

The FRA publishes quarterly reports that measure performance against the metrics and standards. The latest report, published in June 2013, covers performance for the second quarter of Fiscal Year 2013 and provides an indication of how NEC services performed against the standards. To briefly summarize, the Acela Express and Northeast Regional services both met the financial performance standard of achieving "continuous year-over-year improvement on a moving eight quarter average basis" for the "Percent of Fully Allocated Operating Costs Covered by Passenger-Related Revenue" and "Passenger Miles Per Train-Mile" metrics. Northeast Regional service out-performed each On-Time Performance standard for the second quarter of FY 2013 (Change in Effective Speed, Endpoint OTP, All-Stations OTP). Acela Express out-performed the All-Stations OTP standard, and is essentially at standard (-0.1 percent deviation) for Change in Effective Speed and Endpoint OTP. NEC services (Acela Express, Northeast Regional and Keystone Services) met the Delay Standard while operating on Amtrak NEC territory. NEC services that operate over non-Amtrak Host Railroad territory generally met the standard for Off-NEC Host-Responsible Delays, with the exception the Richmond/Newport News/Norfolk Northeast Regional service on CSX railroad while Amtrak Responsible Delays for NEC services that operate over non-Amtrak Host Railroad territory out-performed the standard for Acela Express, but under-performed against the standard for some Northeast Regional services. The "Overall Service" Customer Service Indicator scores out-performed the standard for Northeast Regional but underperformed against the standard for Acela Express. The report also contains metrics for service

interruptions caused by equipment-related problems and various passenger complaints, though no standards were issued for these performance metrics.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO
JOSEPH H. BOARDMAN

Question 1. Amtrak is in the process of building the Gateway Tunnel, a new rail tunnel under the Hudson River. Once completed, the project will increase capacity for Amtrak and New Jersey Transit trains, as well as provide necessary resiliency against future extreme weather events. If we don't address much-needed capacity projects on the Northeast Corridor like the Gateway Tunnel, what will be the impact on service, ridership, and revenues?

Answer. The obsolete condition of aged and insufficient infrastructure assets in the territory between Newark, NJ and New York Penn Station will continue to threaten the reliability of service on the entire Northeast Corridor, inconveniencing daily commuters and intercity travelers, and restricting existing ridership and revenues. Furthermore, there is no practical means of meaningfully expanding intercity or commuter rail service to New York until these assets can be replaced with the Gateway Program.

Currently, the greatest bottleneck in the Northeast Corridor is between Newark, NJ and New York Penn Station, where only two tracks serve 450 trains per day. These 450 trains, serving Amtrak and NJ Transit customers, must travel over the Portal Bridge over the Hackensack River, a 100-year-old movable swing-span bridge, which opens and shuts to accommodate maritime traffic and occasionally gets stuck in the open position, causing cascading delays along the NEC. The replacement of the Portal Bridge with two new, 52-foot high, fixed-span bridges is part of the Gateway Program. Design and NEPA are complete for the first replacement bridge—Portal Bridge North—and it is estimated to cost \$900 million.

The 450 trains per day in the Newark to NYC territory must also pass through Hudson River Tunnels, completed in 1910, which were flooded with seawater during Superstorm Sandy, shutting down the NEC for three days and leaving longer-term damage to the system. These cast iron, early twentieth century tunnels require frequent and expensive maintenance that is performed on the weekends. The infrastructure programs cannot be performed efficiently without reducing the Northeast Corridor to one-track service through Manhattan and restricting combined intercity and commuter service to just six trains per hour all weekend. This condition will continue permanently until two new tunnels can be built with the Gateway Program, providing added capacity, redundancy, reliability and flood resilience, and allowing the existing tunnels to be taken out of service for an extended period of time to be rebuilt.

Question 2. The Northeast Corridor Commission included portions of the Gateway Tunnel in its report Critical Infrastructure Needs on the Northeast Corridor. How will the Gateway Tunnel project help bring the Northeast Corridor into a state of good repair?

Answer. The Gateway Program encompasses both replacement of existing, obsolete assets, such as the Portal Bridge, "Sawtooth" Bridges, and Hudson River Tunnels, between Newark and New York City and new capacity in the form of two additional tracks that will travel over new bridges and through new tunnels in the same territory. The replacement of Portal Bridge, Sawtooth Bridges, the Hudson River Tunnels, and additional track improvements along that territory will bring that section of the NEC to a state of good repair. Portal Bridge, Sawtooth Bridges, and other track work can be replaced in the near term as soon as funding is secured, whereas the reconstruction of the existing Hudson River tunnels must wait until new Gateway Tunnels are built under the Hudson River to absorb the existing rail traffic before the existing tunnels can be taken out of service.

Question 3. Superstorm Sandy wreaked havoc on New Jersey's transportation system and shut down or limited service on the Northeast Corridor for more than a month. In what ways will the Gateway Tunnel help prevent a similar shutdown from happening in the future?

Answer. The new Gateway Tunnels will be designed in a way to greatly reduce the potential for and the impact of the type of flooding experienced during SuperStorm Sandy and future storms. While no asset can ever be said to be completely impervious to such risks, Amtrak's goal will be to design a tunnel that would resist likely flood levels in the future and to ensure that the tunnels could be quickly restored to service in the unlikely event that the tunnels would be flooded. This includes designing the tunnels with elements such as flood gates, greater pumping capacity, higher emergency access shafts, enhanced drainage capabilities, and tun-

nel pump discharge outlets that are independent of the municipal sewer systems in New York and New Jersey.

Question 4. The Gateway Tunnel project will provide additional capacity between New Jersey and New York, but it will also impact the entire Corridor. How will the project improve service for all states on the Northeast Corridor?

Answer. The Gateway Program, by doubling capacity in the most constrained stretch of the Northeast Corridor, will allow for the increase in rail services by all the users of the corridor through better optimization of all train schedules which are currently compromised due to the tunnel restrictions, and roughly double the number of trains that can travel between New York and New Jersey every weekday.

The project will remove the restriction on weekend service that currently exists because of the outage of one Hudson River tunnel every weekend, greatly benefiting visitors from New Jersey and points north and south who wish to travel to and from New York on the weekends.

The Gateway Program is a prerequisite for introducing Next Generation high-speed rail service on the Northeast Corridor, which will dramatically reduce trip times in the Northeast Corridor, bringing cities on the East Coast closer to each other with greater frequencies of trains per hour.

The Gateway Program will be designed in such a way to allow for construction of the "Bergen Loop," through Secaucus, NJ, which would allow for one-seat NJ Transit service from Bergen and Passaic Counties in NJ and Orange and Rockland Counties in NY to New York City.

The Gateway Program is necessary for any meaningful future expansion of services throughout the Northeast Region, such as Metro North Service across the Hell Gate Line into New York Penn Station, and expansion of services from upstate New York, New England, and points south, such as Virginia, Pennsylvania, and North Carolina.

Question 5. The Northeast Corridor is Amtrak's most popular and successful route. Yet, some have suggested that fully privatizing the Northeast Corridor is the only way to bring it into a state of good repair and advance high-speed rail service in the Northeast. What would be the impact on our national passenger rail system if we separated and privatized the Northeast Corridor?

Answer. Privatizing the Northeast Corridor, whatever form that might take, does not address the chronic undercapitalization of the NEC, which has resulted in an \$8.8 billion state of good repair backlog, deteriorating service quality, and more frequent delays. A private sector partner taking over the NEC in its current form would inherit the same investment needs faced by Amtrak, the same need for Federal capital subsidies, and the same obligation to make the NEC available to the 2,000 daily commuter trains and 60 freight trains that share the corridor with Amtrak's intercity services.

Claims that HSR service on the NEC could be significantly expanded at greatly reduced costs and time frames are not based upon a realistic understanding of the current needs on the existing corridor, the cost of building a new, 427-mile two-track right-of-way along the most densely populated and valuable coastline in the United States, or the complexity of delivering this project alongside an active railway that already moves 2,200 trains per day.

Question 6. In New Jersey, the Northeast Corridor is a vital component of our transportation network, providing access for hundreds of thousands of commuters using Amtrak and New Jersey Transit every day. What impact would full privatization of the Northeast Corridor have on passengers, commuter rail service, and the states along the Northeast Corridor?

Answer. Private sector investors will seek a return on their investment. We can assume that if a private sector entity were to take over the management of the NEC infrastructure from Amtrak, it would be seek to charge increased track access fees to NJ Transit, Conrail, the territory's primary freight carrier, and other commuter railroads for use of the corridor and for their share of new capacity improvements. These access fees could very well be above and beyond those that are currently being contemplated through the Section 212 process for cost allocation, as the private investor seeks to generate returns rather than just cover the fully-allocated capital and operating costs of the NEC, as Amtrak is seeking to do under the Section 212 process. These increased fees would likely be passed along to the passengers, freight customers and/or the states.

Question 7. Unlike highway and transit funding, intercity passenger rail lacks a dedicated multi-year funding source. How does the lack of dedicated, multi-year funding impact the ability to plan and budget for major capital projects on the Northeast Corridor?

Answer. It cannot be overstated that the absence of stable, multi-year funding is one of the greatest structural challenges faced by Amtrak and other agencies funding intercity service. Railroad infrastructure investments typically require many years to go from planning to implementation. Sporadic, uncertain annual funding levels forces Amtrak and all other agencies to adopt the most conservative construction assumptions to compensate for the absence of steady, multi-year funding to permit a logical progression of work. Not only does this lead to construction and project delivery inefficiencies for all stakeholders, it adds unnecessary costs and labor inefficiencies, provides a disincentive for planning and long-term development, challenges Amtrak's ability to maintain a culture of continuous improvement, creates market uncertainty for suppliers that retards growth and innovation, and shackles Amtrak's ability to establish partnerships and take full advantage of private sector opportunities. Resolving this issue should be considered Amtrak's top priority.

Question 8. What public benefit would be provided by dedicated funding for passenger rail similar to highways and transit funding?

Answer. Projects would be completed sooner and/or at less cost. Outcomes and deliverables would be much more predictable and would enable focusing on completing state-of-good-repair projects before they become a backlog problem. It would become easier for all agencies, Amtrak, and other partners, to commit to contractual project delivery dates, since the risk of funding deficiencies would be eliminated or greatly reduced.

Question 9. Many countries have heavily invested in passenger rail systems and continue to make substantial public investments to expand and maintain their systems. If we fail to invest in our transportation infrastructure, what will it mean for our country's economic competitiveness?

Answer. Countries that have invested in passenger rail systems have made this choice understanding rail provides efficient, if not the most efficient, mobility in an environmentally friendly, energy-saving manner. Passenger rail has no equal in linking cities with convenient, short journey times for cities up to 400–500 miles apart and for connecting major city hubs with radial commuter routes. The result, as is demonstrated by the Northeast Corridor, is a broad regional network that forms the backbone of the region's economy, for business, educational and recreational travel. The Northeast Corridor provides a globally competitive edge that makes the region such a powerful economic force. Failure to nurture it with new investment will almost certainly lead to measurable diminishment of the region's competitive attractiveness in favor of other locations across the world.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV
TO JAMES P. REDEKER

Question 1. Many stakeholder groups are affected by the NEC. Recent rail legislation, PRIIA, set up a new organization—the Northeast Corridor Commission—to bring many of these stakeholders together. The law requires that the Commission plan for the NEC's future needs and work with the stakeholders to set up fees that passenger and commuter trains must pay to access the NEC. The Commission plans to establish the ways fees should be set up by the end of 2013. Once the Commission develops the approach to setting up fees, it is unclear how the fees will be implemented and administered. Also, members of the Commission may be more interested in the NEC's projects, now they are financially contributing to these projects. Who should be responsible for implementing and administering the cost-allocation methodology; and how would that work?

Answer. The PRIIA legislation tasks the Northeast Corridor Commission ("the Commission") with bringing the parties together to develop an allocation methodology and transmitting a timetable for implementation of the methodology to the Surface Transportation Board (STB).

It is our goal that agreement to a cost allocation methodology is voluntary in nature and will not require petitioning the STB to make a determination. The Commission is developing a policy document of the proposed methodology which will serve as the basis for new contractual arrangements among the parties. It is the view of the Commission that the contractual arrangements must be transparent to all owners, operators, and funding partners across the NEC to ensure adherence to the adopted methodology and related policy principles. The Commission will serve a valuable role in the implementation of the methodology by working with the parties in an open and collaborative manner to settle any policy disputes to avoid any escalations to litigation.

Question 2. What role should states play in NEC decision making, now that they are financially contributing to it?

Answer. First, it is important to clarify that the states (in varying levels of magnitude) have always financially contributed to Northeast Corridor infrastructure and its related facilities although this has not been in a uniform manner. For example, in the last 10 years, Connecticut has invested over \$3.2 billion in the New Haven Line. Of the \$3.2 billion, two-thirds, or over \$2 billion has been funded by state bond funds, while the remainder is Federal Transit Administration rail formula or discretionary funding. In addition, both New Jersey and Maryland have joint benefit capital programs with Amtrak and other states and agencies partner on an ad hoc basis to make capital improvements in addition to the access charges currently paid.

To address near-term needs, the membership of the Commission should collaboratively agree on the capital improvement priorities and projects that need to be planned, designed, and constructed over the next five years beyond the baseline level of maintenance required to maintain existing service levels.

The Federal Railroad Administration's NEC FUTURE process, which is comprised of a programmatic Tier 1 Environmental Impact Statement and a Service Development Plan, offers states a considerable opportunity in defining the framework for the future investments needed to improve passenger rail capacity and service through 2040 and beyond.

The future of the NEC is dependent on a shared vision for its service potential and the development of an implementable capital program, the foundation of which that is a multi-year Federal funding commitment. This is required to leverage state, local, and private sector resources.

The financial implications of cost allocation and project planning and prioritization are tied to the overall governance of the NEC. To address these and other key policy topics, the Commission has recently established a Governance Committee to make recommendations to help enable the NEC to reach its maximum potential.

Question 3. What benefits, if any, do you see of having states more involved in the NEC, both financially and in planning?

Answer. There are many benefits to a strengthened partnership among the owners and operators of the NEC. Shared financial and planning responsibilities create opportunities to implement operational efficiencies and make strategic investment decisions that lower operating costs over the long term for all users.

A partnership instead of a landlord-tenant relationship also recognizes that long-term goals become more achievable when everyone feels like an owner and has a direct stake in the success of the NEC.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO
JAMES P. REDEKER

Question 1. If we don't address much-needed capacity projects on the Northeast Corridor like the Gateway Tunnel, what will be the impact on service, ridership, and revenues?

Answer. Amtrak's Gateway Program comprises many projects, including new tunnels under the Hudson River. Simply put, the biggest impediment to increasing service and improving reliability on the NEC is the current pair of one-track tunnels connecting NJ to Manhattan. The two existing tunnels carry a maximum of 24 trains per hour. During rush hour, there is simply no remaining capacity to add trains to meet ridership demand.

Question 2. The Northeast Corridor Commission included portions of the Gateway Tunnel in its report Critical Infrastructure Needs on the Northeast Corridor. How will the Gateway Tunnel project help bring the Northeast Corridor into a state of good repair?

Answer. The current tunnels were completed in 1910 and due to their considerable age, require extensive maintenance and are in need of substantial repair. This portion of the NEC faces reliability challenges due to the age and intensity of current use. New tunnels and the reconstruction of the existing tunnels will be built to 21st century standards for structural integrity, operations, fire and life safety, and resiliency to flooding and other potential emergencies, enabling increased operational reliability. In addition, the tunnels will unlock capacity to provide for future expansion all passenger rail services throughout the Northeast region.

Question 3. Superstorm Sandy wreaked havoc on New Jersey's transportation system and shut down or limited service on the Northeast Corridor for more than a

month. In what ways will the Gateway Tunnel help prevent a similar shutdown from happening in the future?

Answer. The current system lacks both redundancy and reserve capacity. Even when the tunnels are functioning properly, a lack of reserve capacity increases maintenance costs because this important work must be done at night and on weekends to avoid service disruptions during the day. New tunnels will create system redundancy so that in the event a tunnel needed to be taken out of service for maintenance, severe weather or other unforeseen event, the service could still run smoothly. Further, the new tunnels will be built to provide enhanced protection from future storm surges and flooding.

Question 4. The Gateway Tunnel project will provide additional capacity between New Jersey and New York, but it will also impact the entire Corridor. How will the project improve service for all states on the Northeast Corridor?

Answer. Growth in the demand for commuter and intercity services in the face of aging infrastructure and capacity constraints has caused increased system failure rates and higher levels of congestion, which negatively impacts the reliability of existing services.

Mitigating these consequences of the current rail network with new tunnels under the Hudson will improve service reliability, enhance connectivity, and ensure future generations do not inherit the even more expensive consequences of a failure to invest in these projects today.

Question 5. The Northeast Corridor is Amtrak's most popular and successful route. Yet, some have suggested that fully privatizing the Northeast Corridor is the only way to bring it into a state of good repair and advance high-speed rail service in the Northeast. What would be the impact on our national passenger rail system if we separated and privatized the Northeast Corridor?

Answer. There are many types of privatization structures and without a specific example it is difficult to comment. As Connecticut is also an owner of a portion of the Northeast Corridor right-of-way, any potential scenarios that only address the Amtrak-owned segments ignores the realities of the complex governance issues of the Northeast Corridor.

Privatization is not a cure all for the Corridor. Significant Federal investment will first be necessary to help bring the Corridor up to a state of good repair before any serious conversations can be had on a potential role for the private sector on the Corridor.

Question 6. In New Jersey, the Northeast Corridor is a vital component of our transportation network, providing access for hundreds of thousands of commuters using Amtrak and New Jersey Transit every day. What impact would full privatization of the Northeast Corridor have on passengers, commuter rail service, and the states along the Northeast Corridor?

Answer. It is correct that the NEC is a vital component of the region's transportation network and any future discussions on privatization would have to ensure that the significant public interest at stake would be protected.

That said, it is difficult to contemplate a private investor stepping in to take on the massive financial, construction, and liability risks without a far greater Federal financial commitment than exists today.

Question 7. Unlike highway and transit funding, intercity passenger rail lacks a dedicated multi-year funding source. How does the lack of dedicated, multi-year funding impact the ability to plan and budget for major capital projects on the Northeast Corridor?

Answer. Simply put, it means a lot less efficiency and higher costs. When planning major, multi-year projects on an annual basis, it is much more difficult to size the workforce appropriately, procure goods and materials in a timely manner, and delivery projects on schedule, which results in a higher overall price tag. Perhaps the most important thing Congress could do to help the Northeast Corridor would be to create a dedicated multi-year funding source to help restore the NEC to a state of good repair. The gains in efficiency of the infrastructure spending on the Corridor would be significant and the improvements in system reliability would mean significantly reduced risk to the national and regional economies from a major service disruption.

Question 8. What public benefit would be provided by dedicated funding for passenger rail similar to highways and transit funding?

Answer. As noted above, we would see substantial improvements in the efficiency of our investments and much greater reliability for commuter, intercity, and freight services on the Corridor.

Question 9. Many countries have heavily invested in passenger rail systems and continue to make substantial public investments to expand and maintain their sys-

tems. If we fail to invest in our transportation infrastructure, what will it mean for our country's economic competitiveness?

Answer. Without investment in our transportation infrastructure, the country becomes a less attractive place to invest and less competitive internationally.

Failing infrastructure means that the U.S. becomes a place where goods become more expensive to bring to market, mobility is hampered, and productivity is lowered due to ever-increasing congestion. On the Northeast Corridor, we are relying on investments made a century ago. Our aging rail infrastructure is asked to do more and more as demand continues to increase for commuter, intercity, and freight traffic. We cannot continue to fail to do our part while we rely on investments made by previous generations. It is time for us to step up to the plate and make the investments necessary to maintain and improve this rail corridor that is so critical to our national and regional economy, our international competitiveness, and our overall transportation network.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN D. ROCKEFELLER IV
TO JIM STEER

Question 1. Identifying funding for addressing the maintenance backlog and making capacity improvements on the NEC would benefit intercity, regional and commuter passengers and freight movements. However, making the level of investment laid out in many planning documents is difficult given the current fiscal situation in the U.S. Please explain, in detail, examples of private investment that might be applicable along the NEC in the U.S.

Answer. There are many examples of private investment being used to finance either upgrading of existing railroad infrastructure or of construction of wholly new lines, but their specific applicability to the NEC needs careful consideration.

Great Britain's West Coast Route Modernization (WCRM) was paid for by private sector infrastructure manager Railtrack, which borrowed the funds on the commercial market against its balance sheet but was paid back by the principal operator buying the capacity through increased access charges.

France has developed high speed lines using a public private partnership (PPP) in which the design, construction, maintenance and financing risk of new infrastructure is transferred to a private sector company, which borrows at least part of the finance required on the commercial market.

France and Spain jointly used a PPP approach to procure the Perpignan-Figueres high speed line linking the two countries with a tunnel under the Pyrenees. The project finance structure enabled greater transparency than if each country had been responsible for building the line in its own territory.

Great Britain's High Speed 1 (HS1) line was ultimately delivered by the private sector within the planned timescale and budget using public money. The infrastructure was then leased as a long term concession allowing the government to recoup a proportion of the initial construction costs.

The critical component in this (and other private financing/funding models) is the existence of track access fees which provide a largely foreseeable income stream to a private sector investor. As required by PRIIA Section 212, steps have been taken through the NEC Commission to develop a standardized formula that determines and allocates costs, revenues and compensation between the NEC infrastructure owners and the various rail operating companies, which is necessary to get track access fees on a more commercial basis. This is a good start towards being able to attract private funding.

Question 2. To the extent of your knowledge, what resources, legal authority, etc. need to be in place to better take advantage of private capital funding?

Answer. Major programs of maintenance, renewals and upgrades cannot normally be achieved without some contribution of public funds. This does not mean, however, that the private sector cannot be involved in the process. Private sector investment can only be expected to be attracted if the right conditions exist. First, the investor's exposure to risks needs to be limited to those it is able to manage and for which it can earn a reasonable reward. Secondly, investor's rights and responsibilities, and those of other parties, should be clearly set out. These may be either set down in contract or, to provide flexibility for changing requirements, subject to review by an independent regulator who will, among other things, protect the private sector investors from changes or risks that could not be foreseen or managed.

In the case of the NEC, this is likely to mean establishing and agreeing a unified approach to the whole corridor, based on clear economic and competition principles, establishing what capacity and rail services should be provided in the longer term. Then it will be possible to define and agree the roles and responsibilities of all par-

ties, including the Federal Government, the states, and their agencies, including Amtrak, and the private sector. Once this framework is agreed it will be possible to identify the specific resources and authority needed for each stakeholder and to obtain private capital funding. This may be achievable through commercial contract, or may require new legislation, for example to establish the powers, responsibilities and funding of an independent regulator.

These arrangements may include structural separation of the operation, maintenance, renewal and upgrading of the infrastructure from the provision of train services, although this need not be the case. Debate in Europe is currently finely balanced between whether separation or integration of infrastructure and operations delivers the more effective results, and the advantages and disadvantages of each in different circumstances.

Such an approach could then be applied to leverage private investment across the corridor and/or in specific parts of the corridor, for example, Gateway. A similar approach has typically been adopted in Europe for cross-border links where both infrastructure and operations will best be planned and managed on a cross-border basis.

Question 3. Rail in Europe, including rail in the U.K., has been through different governance, ownership and funding/financing designs over the last number of years. What lessons learned from those experiences do you believe the U.S. could apply to the NEC?

Answer. Europe's many national railroads provide a range of models of governance, ownership and funding/financing. A wide range of lessons can be drawn from specific projects and in relation to specific circumstances, but some general points are worth making:

A clear approach is needed to managing the competing requirements of long distance and commuter operators, which are likely to change over time. Contractual rights may need to be supported by processes for independent oversight through arbitration or a regulator with duties to strike a reasonable balance between the aspirations of all the parties.

Even if the private sector provides relatively little equity, it can be incentivized to manage rapid and cost-effective delivery.

The private sector's commercial focus on the needs of the traveler can be highly effective at growing ridership and revenue, and improving performance and wider aspects of quality.

In return, any private sector operator will expect reasonable protection from other operators entering, and poaching from, a travel market which has been built largely through its own investment and effort.

There are limits to the scale of project risk that the private sector can bear. Early consultation with potential investors helps to identify the appetite for risk and the packages of rights and responsibilities, and risks and rewards, which can most effectively be transferred to the private sector.

Related to this last point, the models which have been tried in Europe have developed, in most cases, by first agreeing broad economic principles. With principles established, more specific proposals are developed, in consultation with relevant stakeholders and potential private investors, with the aim of finding the most effective way of harnessing their resources to deliver the required outcome.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO JIM STEER

Question 1. The Northeast Corridor is Amtrak's most popular and successful route. Yet, some have suggested that fully privatizing the Northeast Corridor is the only way to bring it into a state of good repair and advance high-speed rail service in the Northeast. What would be the impact on our national passenger rail system if we separated and privatized the Northeast Corridor?

Answer. Separation and privatization are two distinct actions. Separation need have no material impact on the remainder of the national passenger rail system, providing the appropriate funding and contractual interfaces remained in place. It would of course lead to greater transparency on where Federal dollars were being applied.

Complete privatization of the Northeast Corridor, in theory need have no impact on the remainder of the national passenger rail system. It is inevitably the case that a fully privatized NEC would require Federal or other source grant funding, all the more if the backlog of renewals is to be made good to achieve a state of good repair.

Question 2. In New Jersey, the Northeast Corridor is a vital component of our transportation network, providing access for hundreds of thousands of commuters using Amtrak and New Jersey Transit every day. What impact would full privatization of the Northeast Corridor have on passengers, commuter rail service, and the states along the Northeast Corridor?

Answer. Experience in Europe is that privatization of some or all of the activities of a railroad corridor can be compatible with the rights and interests of different national, federal, regional, local and urban governments. However, for this to be achieved, the first requirement is a new legislative and regulatory structure with appropriate safeguards on minimum levels of services, fares levels, retailing obligations, depot access rules, etc. This can then allow the reasonable interests of all the stakeholders, and changes to them over time, to be accommodated. Incentives can be set through contracts, where necessary supported by performance and compensation regimes and/or subject to oversight by an independent regulator, setting out the rights and obligations of each party.

Depending on their requirements, the states could retain full control of local commuter service timetables and stopping patterns, station facilities, fares and ticketing arrangements, including integration with other local transportation. Passengers could be offered guarantees related to any of these aspects of the quality of their services.

However, to avoid complete fossilization of existing timetables, and to allow timetables to be changed and improved to mutual advantage, it may be necessary to have independent regulation or arbitration of competing requests for capacity. In the NEC context, there is no entity that has these responsibilities. Privatization would mean at the least a major extension of the role and responsibilities of the FRA, or a new/different regulatory organization.

Question 3. You have considerable experience working on high-speed rail projects around the world, and you have analyzed Amtrak's plans to improve the Northeast Corridor and incorporate private sector support. Is full privatization of the Northeast Corridor feasible given the current state of the Corridor? If not, what level of private sector involvement would be appropriate on the Corridor? And, what are some examples of where the private sector could play a role in improving the Corridor?

Answer. We have identified a range of potential approaches to private sector involvement in the Northeast corridor. Full "privatization"—transferring operations, maintenance, renewal, upgrade, financing, ridership and revenue risk—to the private sector might be feasible but, even if it were, it would probably not deliver the most cost-effective outcome to the Federal Government, the states, and the long-distance and commuter travelers. In other words, the cost in terms of tax dollars would likely rise.

This is primarily because the private sector would require a high level of reward to accept the risks of asset condition uncertainty and the threats to ridership and revenue of modal competition and externalities. Furthermore, while the scale of investment needed would no doubt benefit from an injection of private sector expertise to strengthen the existing resource-base, there is no precedent for private sector funding of the levels needed in the NEC to achieve state of good repair (say, \$40bn), or enhancement to 21st century world standards (perhaps a further \$100bn).

Private sector involvement is likely to be more effective if it is exposed to smaller or more manageable risks, through mechanisms such as:

Separating the risks associated with delivering an upgrade (which starts early) from the risks associated with operating a future service (which starts later); and/or

Independent regulation to limit the exposure of the private sector to risks which it cannot foresee or over which it has no control.

Thus, the private sector could be involved in activities, or combinations of activities, such as supplier contracts for infrastructure, design, build finance and maintain contracts for infrastructure upgrades, asset management, maintenance, fleet provision, fleet maintenance and preparation for service, train service planning and operations and ridership and revenue risk.

Question 4. From a business perspective, are Amtrak's plans to bring high-speed rail service to the Corridor rational? Are they the right entity to handle this service?

Answer. Amtrak has created a number of business lines with a clear management focus, two of which relate to the Northeast Corridor. It would have been a failure on Amtrak's part if it had not developed and offered proposals for how the corridor can better contribute to the Nation's transportation requirements and to the economic growth opportunity in the Northeast "mega-region." The proposals are rational, setting out a program which embraces both improvements to the existing line

of route and new build to accommodate high-speed rail. The challenge is getting the right blend of these approaches, and Amtrak is the only entity which sensibly can make the trade-offs and choices in this area and develop a coherent program that meets customer needs while improvements are made. It is not, however, the only potential operator of intercity and longer distance services in the NEC. With increased infrastructure capacity, competitive service provision becomes possible, as has happened on Italy's high-speed network.

Question 5. In other countries with successful high-speed rail systems, what level of Federal support has been necessary to make the system work? Is the United States currently providing the necessary level of investment?

Answer. The experience has been that federal/national commitment is needed to fund at least the early building blocks of national rail systems. Every nation, having built a first line, has gone on to add further routes, and it is at this second stage that private funding options become worth considering. New high-speed rail lines are distinct assets to which a commercial value can be ascribed and funding can be attracted—but not from the outset, when usually the planning, political and commissioning risks are too high to attract private finance. In each case, a proven concept with a largely predictable (if incentivized) payment stream has to be “visible.”

This is much harder to achieve in the case of upgrades to existing assets where the question of asset condition—there are always “legacy” components to consider—remain and where full separability of an income stream is harder to achieve.

Major programs of maintenance, renewals and upgrades cannot be achieved without some contribution of public funds. Government funding and guarantees are in recognition of public benefits not captured through ridership and revenue, such as reductions in highway and airport congestion, improved economic competitiveness, and reduced noise and pollution.

Determining an optimum level of investment in the maintenance, renewal and upgrading of the existing transportation infrastructure and potential investment in high speed rail, requires a balanced analysis of the wider political, social and economic impacts. Underfunding, which has been the case in the NEC for several decades, means that economic benefits have been foregone. The ultimate level of support, however, is dependent on the policy aims of a high speed rail system and the subsequent specification. Consideration should be given to different investments in high speed rail and their costs compared with the considerable economic benefits which they deliver. This type of analysis will help to inform policy makers of the optimum level of investment in high speed rail.

Question 6. Unlike highway and transit funding, intercity passenger rail lacks a dedicated multi-year funding source. How does the lack of dedicated, multi-year funding impact the ability to plan and budget for major capital projects on the Northeast Corridor?

Answer. Much rail infrastructure is long-lived and can be most effectively maintained, renewed and upgraded if it benefits from a long range planning horizon, giving the ability to program work in the most efficient way. Funding uncertainty acts as a constraint to efficient implementation, leads to sub-optimal decisions, and can result in expensive “patch and mend” rather than lowest cost over the long term. In practice, a 5-year horizon is the minimum for sensible resource planning, but with at least an agreed outline of a longer term strategy to set the context for short term investment.

If Amtrak, or another entity responsible for implementing capital projects, were offered multi-year funding it should in return offer a clear agreement on what will be delivered in exchange, ideally supported by incentives to deliver within time and budget targets. European experience provides many examples of how such contracts can specify delivery of specific outputs and incentivize performance and adherence to an efficient asset management plan which maintains asset quality. Mechanisms have been developed to:

- Define output requirements;

- Assess the efficient level of funding required to deliver them;

- Ensure that funding is not diverted into other activities; and/or

- Allow flexibility of funding draw-down to allow work to be carried out at the most cost-effective time.

Question 7. What public benefit would be provided by dedicated funding for passenger rail similar to highways and transit funding?

Answer. Dedicated funding can provide two principal streams of benefit:

Efficiency, as described above, through mechanisms to ensure that expenditure generates maximum value, is carried out efficiently, and delivers the required output and performance; and

Certainty, in that once contracted there is a clear understanding by all parties of what will be delivered and when and, if appropriate, with performance and compensation regimes to penalize and compensate for any late or under-delivery.

Question 8. Many countries have heavily invested in passenger rail systems and continue to make substantial public investments to expand and maintain their systems. If we fail to invest in our transportation infrastructure, what will it mean for our country's economic competitiveness?

Answer. Under-investment, or poorly-targeted or inefficient investment, will reduce the effectiveness of the transportation system and connectivity, leaving business and other travelers reliant on poor and unreliable service across the various transport modes available. The effect of this is that productivity and competitiveness are adversely affected.

There is a wide body of evidence that efficient transportation, with adequate capacity and service levels, facilitates the benefits of agglomeration which feed through to a more competitive economy.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. FRANK R. LAUTENBERG TO
JOHN P. TOLMAN

Question 1. Amtrak is in the process of building the Gateway Tunnel, a new rail tunnel under the Hudson River. Once completed, the project will increase capacity for Amtrak and New Jersey Transit trains, as well as provide necessary resiliency against future extreme weather events. If we don't address much-needed capacity projects on the Northeast Corridor like the Gateway Tunnel, what will be the impact on service, ridership, and revenues?

Answer. Without needed capacity expansion, along with bringing the Corridor to a state of good repair, service, ridership and revenues will be negatively impacted. Amtrak's Gateway Tunnel would run from Secaucus to the south side of an expanded New York Penn Station in Manhattan and allow 13 more NJ Transit trains during peak hours—for a total of 33—and eight additional Amtrak trains, which is just the sort of capacity expansion the corridor will need in the future. Even now, the capacity expansion is vital with more than 2,000 trains per day and major segments at or near capacity on the Corridor. According to Amtrak, Northeast Corridor rail ridership is projected to increase by over 50 percent by 2040, so this problem will only get worse as capacity projects, such as the Gateway Tunnel fail to be addressed.

Question 2. The Northeast Corridor Commission included portions of the Gateway Tunnel in its report Critical Infrastructure Needs on the Northeast Corridor. How will the Gateway Tunnel project help bring the Northeast Corridor into a state of good repair?

Answer. Gateway Tunnel is intended to augment tunnels that were completed over a century ago. Along with other vital infrastructure, they are currently showing their age and require constant maintenance and repair.

Question 3. Superstorm Sandy wreaked havoc on New Jersey's transportation system and shut down or limited service on the Northeast Corridor for more than a month. In what ways will the Gateway Tunnel help prevent a similar shutdown from happening in the future?

Answer. There are currently only two tracks—one in and one out—and more capacity is sorely needed. While Superstorm Sandy shined a spotlight on the weaknesses of the system, even simple breakdowns of trains on these tracks create problems that cascade into delays throughout the whole system. Hurricane Sandy emphasized that the Gateway Tunnel project is vital because it will provide redundancy and system stability.

Question 4. The Gateway Tunnel project will provide additional capacity between New Jersey and New York, but it will also impact the entire Corridor. How will the project improve service for all states on the Northeast Corridor?

Answer. Capacity expansion, through the Gateway Tunnel project, will have a positive impact on Amtrak, commuter rail agencies and people throughout the Corridor region.

Question 5. The Northeast Corridor is Amtrak's most popular and successful route. Yet, some have suggested that fully privatizing the Northeast Corridor is the only way to bring it into a state of good repair and advance high-speed rail service

in the Northeast. What would be the impact on our national passenger rail system if we separated and privatized the Northeast Corridor?

Answer. The privatization of the Northeast Corridor would have a grave impact on the rest of our nation's passenger rail system and railroad workers. Without the corridor, Amtrak would shut down. Amtrak makes an operating profit in the Northeast Corridor; that profit offsets operating losses on Amtrak's other routes. Amtrak further uses those revenues to help finance and maintain its rolling stock, as well as more than 500 stations, mechanical and equipment shops, and other facilities it owns or operates in 46 states. Unless the Federal Government or states are willing to pick up those costs, Amtrak and several commuter rail agencies that depend on Amtrak for service would be out of business. Long distance service, that is the only rail service for 23 states, 223 local communities and over 4.5 million passengers, could be cut. Alternative modes of transportation would also have to be found by the residents of 106 cities without air service. States like California, Maryland, and Connecticut, where Amtrak is the contract operator of commuter rail service, would have to find a new operator for their service, and to bear the associated costs despite already tight budget constraints.

The privatization of the Northeast Corridor would also impact railroad workers. If Amtrak goes bankrupt as a result of the privatization, railroad workers—both freight and passenger—would suffer dire consequences. Amtrak's workforce makes up 10 percent of the Railroad Retirement and Unemployment system. In 2005, the Railroad Retirement Board estimated the financial impact of a decline in Amtrak employment on the Railroad Retirement and Unemployment Insurance trust funds. According to the RRB, a decline in Amtrak employment would result in a loss in tax income which would trigger an increase in the taxes paid by other railroads (including freight railroads).

Question 6. In New Jersey, the Northeast Corridor is a vital component of our transportation network, providing access for hundreds of thousands of commuters using Amtrak and New Jersey Transit every day. What impact would full privatization of the Northeast Corridor have on passengers, commuter rail service, and the states along the Northeast Corridor?

Answer. As for commuters, agencies such as NJ Transit, may have their access fees increased by the new operators, and will then have to either have the states increase their budgets or pass the increased costs on to riders. Passengers on the Northeast Corridor could find themselves without the consistent, reliable service that Amtrak has provided. As we have seen in other countries, privatization has caused safety and reliability issues when new operators come in.

Question 7. Unlike highway and transit funding, intercity passenger rail lacks a dedicated multi-year funding source. How does the lack of dedicated, multi-year funding impact the ability to plan and budget for major capital projects on the Northeast Corridor?

Answer. This is a critical issue. From the stand point of any organization, it is important to be able to project funding for long-term projects. You cannot start a large scale, multi-year project without knowing from year to year if you will have the money to complete it. Amtrak and the Northeast Corridor are no different. The yearly fight for funding makes it difficult to plan major capital projects. Just recently, the House Transportation-HUD appropriations bill slashed Amtrak's capital and debt budget by a third (29 percent) and its operating budget by 19 percent, threatening Amtrak's very existence. The bulk of what was cut was from Amtrak's capital and debt service request. Amtrak requested \$2.065 billion for capital and debt assistance. The House bill appropriates \$600 million. The funding that Amtrak requested was intended to maintain the Northeast Corridor and other Amtrak-owned or maintained infrastructure and equipment; advance the Gateway Program to expand track, tunnel and station capacity between Newark, N.J., and New York Penn Station; acquire new equipment; and improve accessibility for passengers with disabilities. Many of these projects will be left undone without additional appropriations.

Question 8. There are several good ideas, including a gas tax, an infrastructure bank and a VMT, in order to ensure stable funding. This would provide Amtrak with less debt and more stability. What public benefit would be provided by dedicated funding for passenger rail similar to highways and transit funding?

Answer. Amtrak has released an interesting statistic. Since 2010, for every dollar of Federal investment, Amtrak has placed nearly \$3 back into the economy. Last year, Amtrak covered 88 percent of its operating costs through its ticket revenue. This clearly has a financial benefit to the public. But more importantly, having a dedicated funding source would allow Amtrak to expand services, provide better

service on current lines and ensure the safety of the travelling public even better than they already do.

Question 9. Many countries have heavily invested in passenger rail systems and continue to make substantial public investments to expand and maintain their systems. If we fail to invest in our transportation infrastructure, what will it mean for our country's economic competitiveness?

Answer. In today's global economy, the need to move people from place to place grows ever-more important. There is a mindset with some in Congress that we cannot spend the money to upgrade our infrastructure, but around the world other countries are identifying the importance of doing so and are pouring money into it. Our infrastructure isn't going to take care of itself. It is crumbling, while our international competitors are building and maintaining theirs. China, now one of our biggest global competitors, has the world's longest high speed rail network with about 5,800 miles of routes in service as of December 2012. They have spent billions over the past 20 years to upgrade their infrastructure. In early July, Italy's national rail service Trenitalia, unveiled its new very high speed train sets, the Frecciarossa 1000, with regular passenger service to begin using the trains in early 2015 at speeds of up to 250 miles per hour. The Japanese have been operating high speed rail since 1964, with trains that now go at speeds of up to 200 miles per hour with impeccable safety records. If these countries are doing this, we need to be doing it to maintain our competitiveness. It is simply an embarrassment for The United States to sit back and watch the world innovate in high speed rail while we listen to the pessimists bellow that the system is too expensive and will not work.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. FRANK R. LAUTENBERG TO
R. RICHARD GEDDES

Question. Many countries have heavily invested in passenger rail systems and continue to make substantial public investments to expand and maintain their systems. If we fail to invest in our transportation infrastructure, what will it mean for our country's economic competitiveness?

Answer. The competitiveness of the United States economy will decline if we fail to invest adequately in the country's transportation infrastructure. It is critical, however, to ensure that such investments are not haphazard or piecemeal, but instead are targeted and are economically justified.

Investments are economically justified if the value to the customers enjoying the services provided by that infrastructure (such as to riders in the case of high-speed rail) exceed the overall social costs of those transportation infrastructure investments. High-speed passenger rail in the United States is likely to be most economical in the highly traveled Northeast Corridor (NEC) between Washington, D.C. and Boston. In fact, it may be the corridor in the United States that best meets the necessary requirements to have self-sustaining HSR. This conclusion is based on the following characteristics of the NEC:

- Sufficient population density: There are currently in excess of 50 million people in the corridor, which constitutes less than 2 percent of the U.S. land mass.
- Demonstrated demand as measured by existing intercity auto, bus, air, and rail traffic: Three of the top 25 U.S. intercity air travel city pairs are among NEC cities, 60 percent of the top 25 U.S. intercity air travel pairs include one or more NEC cities, in excess of one-third of all of Amtrak's intercity traffic is among NEC cities, and NEC intercity bus traffic growth has been explosive in recent years.
- Unfettered access to the rights-of-way necessary to enable HSR trains to achieve sufficient speeds between stations.
- Existence of robust local transit systems, which facilitate potential passengers' arrival at or departure from HSR stations along the route: The NEC route encompasses Washington, Baltimore, Philadelphia, New York, and Boston, all of which possess local transit systems that are among the most extensive in the U.S.

The demographics and demonstrated ridership within the NEC make it an appealing route for both public and private investment. HSR makes economic sense on such a route since the revenues from rates paid by riders, as well as other revenue sources generated by HSR activities, are likely to be sufficient to cover the operating costs of providing HSR.

It is thus socially beneficial for investment dollars to flow into the highly used NEC. Recent attempts to improve HSR in the United States have, however, not fo-

cused public resources on critical renovations within the NEC, or on leveraging private investment there. Private investment in HSR is critical because it helps to ensure that scarce infrastructure investment is in fact allocated to those activities where the social benefits are the highest.

There are several additional reasons why it is socially beneficial to develop public policies to facilitate additional private investment in the NEC. Public-private partnerships (PPPs) are the main vehicle for incorporating private investment into the provision and operation of infrastructure. It is important to first define PPPs in general. The term PPP refers to a contractual relationship between a public-sector project sponsor (where the project may include operation and maintenance of passenger trains as well as improvements to the underlying infrastructure) and a private sector firm or firms coordinating to provide a critical public good or service. The PPP contract is subject to all of the standard rules of contracting, and it is useful to think of a PPP as one application of a broader contracting approach.

Before discussing the benefits of the PPP approach, let me review the structure of PPPs, and how they can be adapted to meet differing social objectives. A passenger rail PPP, either on the Northeast Corridor (NEC) or on lower-density, less economical routes, can be structured in different ways depending on the objective of the public PPP sponsor.

Under one approach, the public sponsor may wish to maximize the amount of private sector investment available for infrastructure renovation, such as upgrading tracks and expanding rights-of-way, which reduces the amount of public dollars necessary for that upgrade. Alternatively, the public project sponsor may conduct competitive bidding for the grant of a concession or lease of operational rights, while retaining responsibility for infrastructure.

In the latter example the public project sponsor would determine all the key attributes of the desired service, such as train speed, frequency of service, allowable rates, lease length, and other contractual details. This proposed contract would also allocate various risks between the private partner and the public sponsor, such as the risk of cost overruns on system expansions and renovations.

Although some commentators focus on revenue from rates paid by riders, there are additional possible sources of revenue that can be used to attract private sector investment, which may make private investment in HSR more feasible than first imagined. For example, the winning private partner could be granted commercial or residential real estate development rights in areas adjacent to stations. Other possible revenue sources include naming rights for stations and bulk purchases of tickets by corporate entities, among many others.

The public PPP sponsor may have a goal other than maximizing private investment in passenger rail infrastructure. The goal may be obtaining the best fare/service quality combination, for example. In that case, the sponsor can set the basic parameters of the contract, announce the precise criteria on which the winner will be determined, and accept bids. The key insight is that the PPP contracting approach is flexible enough to accommodate a variety of public sector sponsor objectives.

There are multiple salient benefits of the PPP contracting approach including the introduction of competition with all of competition's attendant benefits, the shifting of risk from public to private entities, and the provision of fresh capital:

The introduction of competition. One important social benefit of the PPP approach is that it allows for competition to be introduced into HSR service provision. Competition encourages firms to provide quality service at low cost, to be responsive to customer's needs, and to encourage competitors to innovate. The competitive benefits of PPPs can be realized on both NEC and non-NEC routes.

The articulation and enforcement of clear key performance indicators. An important social benefit of the PPP approach is simply that a contract exists. The contract includes details regarding what actions constitute adequate performance on the contract. The PPP approach thus encourages the public sponsor to reflect upon, and articulate, what specific actions by the private partner constitute excellent, or poor, performance. This will improve service provision. This may include metrics about major issues, such as the reliability and frequency of train travel, but also more detailed considerations such as the cleanliness of cabins, restrooms, and dining cars.

The provision of fresh capital. One key consideration is that the PPP approach allows fresh capital to be injected into passenger rail in the United States. In many cases, the public sector simply does not possess the necessary resources. Reliance on private capital is thus the only way to complete necessary renovations, upgrades, and maintenance that result in safer, faster, and more efficient service. But it also results in substantial savings, since a project will be com-

pleted faster under the PPP contracting approach where the private capital is readily available to get work done quickly.

The introduction of new technologies and the fostering of innovation. One key advantage of the PPP approach is that the private sector has incentives to develop new technologies, and has the resources to implement them. This results in lower costs and improved service.

The assumption of risk by private partners. Under the current approach in the United States, taxpayers assume virtually all the risks associated with designing, constructing, operating, and maintaining passenger rail systems. In a PPP, some of those risks can be allocated to the private partner, which reduces risks borne by taxpayers.

Private participation in the provision of passenger rail service in the United States through PPPs should be encouraged. Unfortunately, recent attempts to expand funding for HSR in the United States did not include appropriate mechanisms to attract and retain private investment in rolling stock, stations, or rail infrastructure. It is important that future efforts to improve the Nation's HRS system include such mechanisms.

